AN HISTORY OF THE Wonderful Things of Nature:

Set forth in Ten ſeverall *Claſses.*

Wherein are contained

I. *The* Wonders *of the* Heavens.
II. *Of the* Elements.
III. *Of* Meteors.
IV. *Of* Minerals.
V. *Of* Plants.
VI. *Of* Birds.
VII. *Of* Four-footed Beaſts.
VIII. *Of* Inſects, *and things wanting blood.*
IX. *Of* Fiſhes.
X. *Of* Man.

Written by *Johannes Jonſtonus.*

And now Rendred into

ENGLISH.

BY

A Perſon of Quality.

LONDON,

Printed by *John Streater*, living in *Well-Yard* neat the Hoſpitall of *St. Bartholomew's* the Leſſe, and are to be ſold by the Book-Sellers of *London*, 1657.

John Earl of Bute &c

TO

The most Illustrious Princes and Lords,

L. Jaluszius Radziwilius, *the sole heir of the Illustrious Prince* Christopher.

L. Boguslaus Radziwilius, *the Son of the most Illustrious Prince* Januszius, *of most Illustrious Memory.*

To the Dukes of Birza, *and* Dubink, *&c. Princes of* S.R.I.

D. Boguslaus, *Count in* Lesznum, Palatinidæ Belzensi, *&c.*

D. Uladislaus Monwid. *L. B. in* Dorostaie, *High Marshall of the great Dukedome of* Lithuania.

His most gracious Lords.

Most Illustrious Princes and Lords,

AS all things have their revolutions, so hath naturall History the same chance. It was held for a goddess, and much honoured in former times; witnesse the writings of *Aristotle, Pliny, Dioscorides*, and other famous men: but now a dayes it is so despised, that it is of no esteem at all; this matter needs no proving. I confesse the history of Plants is adorned by many, and Mineralls are made mention of; yet I doubt whether it be entirely professed in any University or School, (except *Bononia, where* Aldrovandus *was*). *They that search out the secrets of Nature, in cursory discourses, fall unfortunatly upon the thorns of subtilties and snares of questions, and do nothing but weave and unweave them with a fine thred of controversies.* Whence young Schollers suppose themselves fit to be Masters in Philosophy, when they know how to quote *Aristotle* for some things, confusedly and unreasonably for generall matters. Most *gracious Lords*, how unfit and hurtfull that is, I leave to every man to judge. As for me, what *Goudanus* the Mr. of great *Erasmus* speaks of *Pliny*, I dare to apply to natural History. *That it is such, that who reads it not, is thought to be unlearned; he that disdaigns to read it, is more ignorant; and he that cannot rellish it, is most ignorant of all: And if there be any consideration had of conversation, really it is more comely and more convenient for it; and for us to know wonderfull nature, and her motions; to learn the forces and natures of living creatures, mettals, sprouts, plants, to look into the Anatomy of man, and to*

 contem-

contemplate other rare admirable things in nature, than to rest satisfied in a few general things of motion, of the heavens, of meteors, and of the soul; (Johannes valent. Andr. in Instit. Magica.) and oft times to agitate these things againe, till we grow ridiculous. And indeed if the general Principles of natural Philosophy be lookt into, it will appeare they cannot consist without knowledg of History. For being that universalls are built upon particulars, illustrated, demonstrated, determined, refuted by them, how can he be skilled in Philosophy, who is ignorant of History? or how can he salve the many defects thereof, and constitute Axioms that are introductive to action, and search out the forms, *&c*? The same will befall him as it befell *Ixion*, who embraced a Clowd for *Juno* the powerfull goddess, whom he intended to embrace, and so is reported to have begotten *Centaures* and *Chimæra's*. As for what concerns action, he shall never change any other mettal into Gold, who knows not the natures of the weight, the yellow colour, of the malleablenesse, the extensivenesse, the fixt and volatile substance of them, and hath not diligently lookt into the menstruum, and seeds of minerals. He can never hope to retard old age, who hath not first the knowledge of the nature of drinesS, and of the depredation of the Spirits upon solid bodies; of assimilation, and alimentation. But the straightning of nature, and daily contesting with her, is the principall thing whereunto the knowledge of the same is directed. He is to me a true Son of natural Philosophy who knows how to augment, and multiply the Winds, to produce new mettals, to make mineral Waters; Artificial, of Vitriol, Brimstone, Allum, *&c*. and to bring forth new plants and animals. He is a legitimate enquirer into Nature, who knowes how to prolong life, keep back old age, change statures and complexions, raise the force of imagination upon any body, cure diseases hitherto uncurable, ease pains, and can hasten the times of maturity, clarification, putrefaction, concoction, and germination. I will now say nothing of Natures book, wherein we may behold the supreme power, as the Sun is seen in the water. For it is certain, that he is comprehended under the title of natural history, and it is farr more easy to find out his goodnesse wisdom and power, by the apparition of new Starrs, the flowing of the Sea about *Maccareo*, the increase of Iron in *Ilva*, the marriage of palme Trees, the flowring of Mulberries, the ingenuity of Elephants, the Kingdom of Bees, the harvest of Pismires, the foresight of Dolphins, and the infinite Sympathies and Antipathies of things created, than out of those vast discourses of the entity of *materia prima*, identity of motion, the measure of time, *&c*: which are found in *Albertus*, *Thomas*, *Scotus*, *Fonseca*, *Masius*, *Ruvius Toletus* and others. Who knows not but that the knowledge of God is the principall end of Sciences? When I had diligently considered of these things, first induced thereunto by the writings of that reverend man D. *Johannes Andreas*, my much honoured friend, I not only conceived a high love of naturall History, but I thought my self obliged to perswade young men that were

were studious, to do the same. But because I observed that the Theoreticall part was shut up in huge Volums, and the practick involved with great difficulties; and I saw that Youth that are given to idlenesse, would hate labour; and being addicted to pleasure, would not endure difficult things; I, imitating the Sons of *Æsculapius*, (who allure the sick to use bitter things, use also syrups confections, electuaries, *&c*.) have culled out the most pleasant things; (and if any be doubtfull, it was done to spur them on) as much as my other occasions would suffer me, which I had in *Poland*, being Tutor to the most noble *Kurtzbachius de Zwada*: as also by my proper studies in the low Countries, out of the huge volumes of *Pliny*, (concerning whom, I like that saying of *Lipsius He that calls Pliny his works Pandects, in my opinion shall not err; for that man read, knew all, and shut up Greece and Italy in one volume*) *Agricola*, *Gesner Aldrovandus*, *Libavius*, *Mathiolus*, *Scaliger*, *Cardan*, and many more writings, and by these my purpose was to invite with intreaty the studious youth, that labour so much in the common principles of natural Philosophy, to a more serious scrutiny of Nature. But, most illustrious Princes and Lords, when, as the manner is, I sought for a Patron, I thought this work did of duty belong unto your Name. For If it be considered; the examples of *Solomon*, *Alexander*, *Mithridates*, *Diocletian*, *Francis the first King of France*, and others, will teach you, that the knowledge of natural Philosophy belongs also to Princes and to great men. If you; I confesse, the hope of *Poland* now, and in time may be the Starrs, of that Country, that with the beams of their light, will vouchsafe to illuminate the Church, the Common-wealth, and schooles of learning. If I; I have drawn these things forth chiefly for the good of my Nation, and I study other things, if God please to lend me space to perfect my intentions. Yet I deny not, but it may be I owe more to you already than I can pay. For, most Illustriuos Prince *Janusius*, you were pleased at *Lipsia* to invite me to your Table, and to discourse with me. And the most illustrious Lord *Alexander Przybkowic Przybkowsky*, your high treasurer, thought me worthy, to have the offer of a place in your illustrious family, if occasion were. Most illustrious Lord, how great your Noblenesse was to me, my conversation at *Lesna* with the most learned Lord *Michael Henry*, a most excellent Chymist, and your hof-master; and with the reverend Mr. *David Ursin*, a man of singular fidelity and prudence, who sojourns with you, may sufficiently witnesse. Also, most Illustrious Lord *Boguslaus*, your letters are sufficient testimonies, whereby you often spake to me when I lived in *Holland*, and the good words you spake of me being absent, most lovingly when you departed from *Lesna*. Wherefore, most illustrious Lords, whatsoever this small work is, I lay it down at your feet; and you I hope will receive a small gift of a thankfull mind, with that Heroick humanity that is bred in you; and think, that I owe you much more, but I cannot give you more than I do. God grant that the Majesty of Arts buried in our minds, may be recall'd and brought to life again

again by your promoting voyce, and be restored to its former luster. As for me, if I find that you accept of these things, and that they are usefull for our students, I shall indeavour to handle these things more accurately, and to frame a compleat Circle of Arts and Sciences in a small history, that young students may have the fruit of it, and may more happily be promoted in the course of their studies. I wish it. In the mean while, that you most Illustrious Lords, may live long for the glory of God, and good of your Country. Given at *London*, May 15 old style, Anno 1631.

Your most Illustrious Highnesse and Greatnesse, most bounden Servant,

John Jonston.

The

The Contents of all the Chapters and Articles contained in this Book.

The Contents of the First Classis.

The Contents of the Second Classis.

Art.

The Contents of the Third Classis.

The Contents of the Fourth Classis.

Chap.

The Contents of the Fifth Classis.

(a) Chap.

The Contents of the Sixth Classis.

Chap.

The Contents of the Seventh Classis.

The Contents of the Eighth Classis.

The Contents of the Ninth Classis.

The Contents of the Tenth Classis.

Article

Scalig.

Scalig. l. 1. de Plantis.

I Alwaies thought the compasse of Wisdome to be, as it were, the Treasury of our Mind, into which I suppose we ought to bring all the tribute of our *Cogitations* and *Inventions*; yet onely such as are honest: from whence every *Man* may fetch for his own use without *Envy*, or *Grudging*. For we are all one Body, and there is but one Spirit of this Body, which proceeding from God, watcheth for the common Good.

OF

To the Right

HONOURABLE

Edvvard Lord Mountague,

Baron of *Kimbolton*, Viscount *Mandevill*, and Earl of *Manchester*.

My Noble Lord,

THis *Excellent* HISTORY *concerning* The Wonderfull Things of Nature, *was written in Latin; and digested into* Ten Classes, *by a Native of another Countrey: who was himself indeed* A Wonder in Nature, *and might well make up the Eleventh* Classis *with the History of himself, for his generall and vast understanding in the Universe, as will appear to all men that will take the pains (so full of profit and delight) to read his writings. In his Life-time he was much conversant in* England *and* Scotland, *to search out the wonderfull Things in these Nations. And if Englishmen well weigh and consider it, they cannot but thankfully make their returns unto Almighty God for it, since there is no Countrey of the World that is in all things comparable to* Great Britany *it self, being adorned with so many strange and wonderfull things. I shall not need to mention the particulars (which have furnished the Author in severall Classes with some varieties.) For I fear the World will judge that I have said too much already unto your Honour upon this Subject (who is far better acquainted with the Wonders and Rarities of these Nations than my self) and that I have betray'd my own Ignorance, to offer a Translation of mine, unto your Honour, who is so well versed in the Originall, and which cannot be parallel'd when it is made to speak any other Language. But I hope your Honour will excuse this Attempt, because the Authour was a great Lover of our Countrey, and therefore it was held convenient to make him a free Denizon, and to speak* English *for the publick Good, which your Honour hath alwaies labour'd to advance by your honourable Actions; and I fear not, but your Nobleness will tenderly Embrace what is undertaken for that end; though this Translation can adde nothing to your Honour, but seeks for honour from your noble Patronage. Yet since it pleased God to afford me this opportunity to put your Honour in remembrance of me, who was formerly a Schollar at* Eaton *Colledge, and contemporary with your Honour; and that I once had the happinesse to be domestick Servant unto your Honours Noble Father, who now rests in God, and who was then pleased to honour me*

so much, as to have the review, and commit to the publick view his, Immortall and Pious work, entituled, Contemplatio Mortis et Immortalitatis, *the fruits whereof he now enjoyes. And that his Honour, for above* 40 *years accepted my Father to attend so near his Person to do him Service for his bodily health; I knowing also how much I owe to the Memory of your noble Uncles, to that Reverend Prelate of the Garter* James *Lord Bishop of* Winchester, *and Sir* Sidney Mountague, *who were both my Honoured Patrons; I might be taxed with high ingratitude, if having nothing better to present your Honour with than this Famous Authours work, (though in a meaner dresse) I had unadvisedly dedicated it to any other Person, and overpast so fair an occasion, whereby I now expresse my due Respects unto your Honoured Father's Memory, and to all your Family, and in particular to your Honour, to whom I and my Fathers house stand so much obliged. My humble Suit is, that your Honour will let passe all other Considerations herein, and to regard onely the gratefull Mind of him, who shall alwayes pray God to blesse your Honour, and your Noble Family, with all blessings Temporall and Eternal, in Him who is the Fountain of all blessednesse, the* Lord Jesus Christ; *and shall remain*

Your Honours in all obedience,

John Rowland.

OF THE DESCRIPTION Of Naturall VVonders.

The First Classis.

Wherein are contain'd the Wonders of the Heavens.

ABove there are vast spaces, and the mind is admitted into the possession of them: But so, if it bring no corporeall thing with it, if it scour off all sordid matter, and be quick agil, and seem content with what is moderate, Seneca natur. quæst. l. 1. Præfat.

CHAP. I.

Of the World.

Article 1. *Of the Creation of the* World.

Pythagoras calls this whole Consistence of bodies κόσμος and the Latines from its beauty call it *Mundus*. *Ocellus* saith, it was from eternity, *de universo Aristotel. l.* 8. *Phys.* and some others. We affirm, that it was created at the beginning by the glorious Trinity; and by faith we understand, that the world was Made. The History is in the Scripture, but the perfect description in *Moses*'s Works, *Gen.* 1. Nor can the censorious rod of *Galen*, or of the memory of the Apostles, whereof mention is made by Bishop *Turribius*, detract any thing from it. The dictates of the Holy Ghost cannot be false, the

the knowledge of God is free from errour. The eternity of *Cardan* drawn from the salt of the Sea, *lib. de subtil.* is as easily rejected as propounded. It is a weak proof, that all pure things were made at first; I adde, and a false one. *Chrysippus apud Laertium* amongst the Stoicks, speaks boldly: *If there be any thing, that can do that, which a man with his reason cannot do, that thing is greater, stronger and wiser than man; but a man cannot make heavenly things: Therefore he that made them excells man in Art, Counsel, Prudence and Power.* What therefore can that be but God? All that is, was made of nothing, and by the Word let it be made. *Empedocles* is false, concerning the concourse of Atoms; (of matter and quantity co-eternal) also that is false in *Plutarch, That the essence and matter whereof the World was made, was not first created, but was always ready for the Workmaster, and was fit to be compounded and digested, and made, as far as possible it might be to his own likenesse.* But nothing was with God, before he made it, that was not God himself. He it is, that calls things that are not, as though they were. *Hermes in Pimander, The Workmaster made the whole World, not by hands, but by his Word.* *Moses* writes, that all things were made in six dayes; Some think this was onely for order sake, and for our instruction. *Augustine* thinks, all things were made together in a moment. *Philo* writes acutely of the making of the World. *Moses* saith, The World was made in six dayes; not that God the Maker of it needed time to do it, (for God is not onely thought to work by commanding, but by contemplating) but because it was needfull that things should be created in some order: and this is a proper number for order; and six amongst all numbers is fittest for generation, for it is the first perfect number after a Unite, consisting of parts whereof it is made; of three that is one half of it; and two a third part, and one a sixth part, being of a masculine and feminine nature. As for the time, it is supposed to be Autumn, as it is collected from the Feast of gathering in of fruits in the end of the year, and from the moneth *Tisri*, which answers to September, *Bartolin. c. ult. gener. Phys.* Some say, the Spring: *Ambrosius in Hexametro: Thence it behoved the world to begin, where there was a Spring-like temper fit for all things. whence it is that the year sets forth the Image of the World at first beginning, and after winter cold, and frost and mists, the clearer brightnesse of the Spring shines forth more than ordinary.* *Macianus Scotus* puts the Lords Day on the 15th of the Calends of April. *Macrobius* describes the Generation. His words are; *In the making of the World,* Aries *was in the middle of the Heavens; the Moon in* Cancer; *the Sun rose with* Leo; Virgo *with* Mercury; Libra *with* Venus; Mars *with* Scorpio; Jupiter *was in* Sagittarius; Saturn *in* Capricorn. We shall say with *Firmicus, The Day it was made upon, is uncertain.* For the time is different in places; nor was there any then. For all secular things began with the World. If you look at the end, it is the glory of God, and the good of Man. Look which way I will, I see exquisite marks of Gods Wisdome, Goodnesse, and Power. Contraries are here parted, and yet coupled by bands in the mediums. Hence his wisdom appears; The actions have

have recourse in order; hence appears unity: there is neither old age, nor change, nor wearinesse; thence his power is manifest: every thing had a sufficient perfection given to it, and is content with it; thence we see his goodnesse. They are all from God, and they tend unto God; thence is glory.

Article 2. *Of the Parts of the World, and the disposing of them.*

WEe need not be over-curious for the matter of it. It contains the Heaven with the Stars; the Elements, Meteors in the Ayr, Fishes in the Waters, Minerals in the secrets of the Earth; Plants, Animals and Man are in the upper surface. They are all materiall and corporeal things, which wise men include in it, and they are all realities. Heaven is thought to be uncompounded, the Elements serve for composition, Meteors are imperfectly mixt; Minerals perfectly, but without life; Plants with life, but without sense; Beasts with life and sense, but without reason: Man with life, sense and reason, is the compendium of all, a little world in the great world. The perfection is as great as the matter could bear; the Workmaster could give more, but the Matter was not capable of it, *Scalig. Exerc.* 243. *s.* 3. The goodnesse is confirmed by the decree of God: *Gen.* 1. *vers. ult. He saw, and behold, all things were good.* The manner of ordering them in this great Engine, *Zeno in Laertius* amongst the Philosophers hath declared; *That God at first, whilest he was alone, changed all essence by Ayr into Water; and as in the birth the seed is contain'd; so God who is the seminal cause of the world, left such a seed in the moysture, that should afford an easie and fit matter for this work; for the generation of things afterwards. Then he first produced the four Elements, Fire, Water, Ayr, Earth, &c.* *Trismegistus in* Ἱερῷ λόγῳ, speaks true; *There was,* saith he, *infinite darknesse in the deep, and the water, and an intelligible spirit were by Divine vertue, existing in the Chaos; wherefore the holy light was taken away, and the Elements were congealed and fastned beneath of a moyst substance, and all these embraced, and were in love with a seminall nature. And when all things were undivided, and not set in order; they were parted; and things that were leight, chose the uppermost place; heavy, the lowest; moyst, the dry Land: all of them being divided by the Fire, and hanging in the Ayr, and carried by it. And the Heaven appeared in 7. circles, and the gods appearing in the Aspects of the Stars, with all their signs, and the whole circumference was distinguished, and with the gods that are in it was circumscribed with the circumambient Ayr, and carried by a moving Divine spirit. And every God by his own vertue produced what he was commanded, and there were brought forth four-footed beasts, creeping things, Fishes, Birds, and every seminall plant: and grasse and flowers, and every herb, contain'd in themselves seeds of regeneration: and the Generations of men were for the knowledge of Divine things, &c.* But *Moses* sets it down most truly, *Gen.* Chap. 1.

Heaven and Earth, and Light, the first day are:
The Firmament dividing waters second were.
The third, the waters parted, Plants, the Earth:
The fourth to Sun and Moon and Stars gives birth.
The fifth gives Fishes, and all kind of Birds:
The sixth brought Cattell, all made by Gods Words:
Then Man was made; the seventh rest affords.
Danæus in Phys. Christiana.

Artic. 3. *Of Unity, Figure, and Soul of the World.*

DEmocritus and *Empedocles* supposed, that other worlds were made successively of some indivisible small seeds. Hence *Alexander* complain'd, that he had not yet conquered one. *Origines*, περὶ ἀρχῶν, said, they were infinite successively; that the Elementary world was made every 7 thousand years, and the heavenly once in 4900 years. For the Sabbath for the earth, and the yeare of *Jubilee* was wont to return every 7th year, and every 49, yeares. *Leo Hebræus toucheth upon this opinion, Dialog de Amore*; where he saith, *The inferior world by the opinion of the old divines is generated corrupted and renewd once in 7000 years.* But because we see nothing moved in it confusedly, nor any thing set without it, whither shall we go out of it? Our desire is answered. For in the end of our cogitations, the same question alwales returns. Wherefore we say, that there is but one world, and the figure of it is plain, like to a skin stretched forth very large, saith *Basilius*. But *Plato* held, that it was like a Circumvex, pointed with many Angles. *Sanchumates Berytius* the most ancient writer of the affaires of *Phœnicia*, said it was like to an Egge, wherefore at the feasts of *Bacchus* they religiously adored an egg, as the emblem of the world. Some compare it to the greek letter Ω, in which the outward lineament represents the Ocean, *Dalecham P. ad l. 2. Plin. hist. c. 3.* But that it is made like a Globe, not only the name and consent amongst men that call it so, but every mans eyes can tell him; for it is convex, and one half, look upon it which way we will. *Plato. Of which living creatures he would have all other living creatures contain'd, he framed that of such a forme, that in that one all the rest might be contain'd.* The Stoicks would have it to be a living creature, endued with sense and reason. Hence grew that description by its parts. *The Starr,* (saith Plutarch *of the face of the Moon*) *are shining eyes in the face of the world, they run their race; the Sun is in place of the Heart: as this affords blood and spirit, so that sends forth heat and light; the world useth the Earth and the Sea, as a living creature doth its belly and bladder; The Moon between the Sun and the Earth is as the Liver between the heart and belly, or some soft bowel, and attenuating its respirations by some concoction, and purgation, scatters them about.* Elegantly, but not true! For the world hath no known soul; if we ascribe any thing to it, all will be but a diffused force, common to all, and in proportion we may call it a soul. For what the soul is in bodies, the same is force diffused in the universe. *Combach. in Phys. cap. de Mundo.*

Artic.

Artic. 4. *Of the Duration of the World past and to come.*

THe duration of the World both past and to come, is sought out by many, but no certainty is proved. The Ægyptians formerly boasted of 48000 years past, in their History; the *Chaldæans* 470000; The *East-Indies* 700000. The Ægyptians are disproved by their disagreement: one of them reported 20000, to *Solon* that asked him; another 1300 to *Herodotus*. The *Chaldæans* alleage that in 48863 there have been only 832 luminaries: But the doctrine of Astronomy shewes these to be trifles. If this were not, it might be; yet *Diodorus* in *Augustin* his time, searched for the greatest antiquity of the Ægyptians, and found scarce 4000. *Calisthenes* Nephew to *Aristotle* by his sister, found the *Chaldæans* not to be 2000; *Simplicius* reports it. Amongst our Chronologers, the Christian *Epoche* is uncertain; nor is there any beam so cleare, to discusse these Clowds. *Abraham Buchholzerus*, with *Mirandula* and *Reusnerus*, saith, it was created before the said *Epoche* 3970 yeares. *Buntingius*, 3968; *Mercator*, 3967; *Scaliger*, 3947; *Beroalaus*, 3929; *Broughtonus*, 3928; *Pareus*, 3927; *Pavellus*, 4022. Hitherto *Scaliger* hath been preferr'd; yet it is thought that *Pavellus* hath discovered his imperfection. The uncertainty concerning its end is greater. *Macrobius* defines it by 15000 years. *Orphelis* by 12000, *Cassander* counts 30 times 6000000. *Berosus*, as *Seneca* saith, contends that the earth shall be burnt, when all the Starrs meet in Cancer, and a flood should be in Capricorn. Amongst Christians, *Liborovius* will have it to be 1666; *Rossinus* 1656. (*Libavius in declam. de comet. anni* 1604). *Cusanus* 1700, or else the space that goes before 1734. *That as after the first Adam*, (they are Cusanus his words) *the consumption of sin came in the* 34th *Jubile by the waters of the flood, in the days of Noah, according to* Philo; *so we conjecture that after the second* Adam, *in the* 34th *Jubile shall come the consumption of sin by fire.* (Nancelius *cites it, in analog. Microcosm. cum Macrocosmo. l. ult.*) *Augustinus* and *Lactantius* define it by 6000 yeares. *Alstedius* holds the term to be uncertain, but it is certain, it shall not be before the yeare of Christ 2694, (in *Thesauro Chronolog. c. 6. et diatrib. de mille annis*). A certain friend dreams of some thousands. *Napeirus* is of one mind, *Copernicus* of another. What shall we say to this? It is not in man to declare these things, or to know them; the Angells know them not, nor yet the Son of man. God hath kept these times in his own power. *Thomas* speaks true, *All those that undertook to determine the time of the end of the world, have been found false, and so shall all that shall undertake the same hereafter.* Be the time never so uncertain, yet certain it is, it shall have an end. The word of God saith it; *The Heavens and the Earth shall passe away. Luc. 21. 23. Christ, in Mathew, 23,* foreshews the forerunning signs. The Stoicks set down the manner in the flood, and in the consuming by fire, and the *Hebrews* seem to consent. For they affirm that the Sea should ascend above the Mountains tops 40 cubits (*Petrus Comestor in Nancelius*). *Aristotle and Plato* universally de-

ny

ny it. It is known by the word of God to Christians, that the world perished by the flood, and the burning of it, is expected. For St. *Peter* saith, *c. 2. and 3. but the Heavens that now are, and the earth are reserved for the fire, at the day of Judgment.* But whether there shall be another world differing essentially from this, or this shall be renewd wherein we live, is a question. The *Apostle* saith, The fashion of this world passeth away: the holy Fathers, *Basil, Eusebius, do imply an alteration; and Seneca, in his disputes. Every creature shall be generated anew, and a Man shall be given to the earth, that knows no wickednesse, and bred from better principles*: yet he adds, *Their innocence shall not last longer then while they are first bred; for wickednesse will soon break in.* He differs from us, because he makes eternal innovations; which we admit not. The censure of *Tatianus* against the Gentiles. *Doth any man determin God to be a Body? I think, He is without a Body. Do's he think the world incorruptible? I think, It is corruptible. That it shall be burnt by degrees? I think it shall be but once for ever.*

Artic. 5. *Of the hidden qualities of natural bodies.*

I Said, that natural bodies were containd in the world; now I say that they are so ordered that they have their peculiar vertues, and in some things they are partakers. Every one hath its nature, they are containd in place, measur'd by time, defined by number, they begin, they perish, they move, augment, diminish, they act, and suffer. Amongst the rest hidden qualities are admirable according to which there is either consent in things, or jarring and discord; Philosophers call this sympathy and antipathy. The first and second qualities are no causes of these things; examples of them are spred through the whole field of Nature. The raging Elephant growes calme if he see a Ram; and if he see a *Rhinoceros*, he is angry. The tender flesh of sheep bitten by a Wolfe, and the wooll woven also, will breed Worms. Cattel almost dead, and men faint, are revived by the smell of bread. *Pencerus de divin. sect. de Astrolog. Porphyrio* a bird will dye if it look on a Whore. Woodpeckers will, with grasse, drive out wedges. A Stag draws out Arrows with dittany. The venome of the *Tarantula* is driven away by the sound of Musick and dancing by measure, *Alexander ab Alexan. l. 2. genial. dier.* Many will sweat if a Cat be present. *Quercetan in diætetica*, and make water at the sound of the harp. *Scalig. exerc.* 344. *s.* 6. One was driven from a feast at the sight of Apples, if we credit *Quercetan*. A boy's lips swelled by eating of eggs, and his face was spotted with black spots. *Marcel.* A Monk, saith *Lusitanus*, swounded at the smell of a Rose. Another hated bread and flesh, and lived only upon eggs. One espied an old woman at a feast and could not endure her, and when he was forced to stay, he was carried forth dead. One swounded with the combing of his hair. *Demohon* the builder of *Alexandria* was cold in the Sun or a hot Bath, and hot in the shade. The same is said, of a certain *Idiot* that clothed himself with skins in Summer, but went naked

naked in Winter. *Pontanus* his dog would eat no Cocks flesh; but *Scholtzius* his, would houl lamentably when the strings of a Lute were wound higher. But when they were tuned as they should be, and sounded harmoniously, he was quiet. I say no more. *Libavius de Antipathia rerum.* The cause of all these things is hid; But it is certain that the most eminent of them arise from those qualities, that both agree with their forms, and are moved by the force of them. The knowledg of secret forces appertaine to natural magick, wherein we had need of a wonderfull caution. *Alvernius lib. de universo* writes that Turnsoil will make men invisible, and that quicksilver put between two reeds will hinder witchcraft; That Rue taken away by stealth, & Basil planted with a feast will grow the more abundantly, saith *Trievius de Dæmon. decep.* and he adds that 7 grains of a certain hearb cast amongst the guests at a drinking feast, will make them fight up to the eares in Blood. These are fooleries, and confuted by propounding them, *Delrius l. 1. disquis. Magic. c. 3.*

Artic. 6. *Of Gods Providence in the world.*

GOd was not pleased onely to make all these things, but he would have them all under his Government, and Providence. Hence comes the preservation of the beings and vertues of things; and the disposing of them all after the freedom of his will, the wise ordering of all things. In this are the ends set orderly, the means to these ends are exquisitely disposed, and being disposed, are most wisely directed. This Providence was so often and forcibly maintain'd by the *Stoicks*, that they became a sport and a jest to their adversaries, who call'd this, *The fatall old wife of the Stoicks that foretold future things.* *Epictetus* in *Arrianus*, speaks admirably; *What concerns the gods, some deny there is any God. Some say there is, but an idle careless Deity, that provides for nothing. There is a third sort, that maintain there is a God, and that his Providence governs, yet onely in great and heavenly matters, but in no earthly thing. A fourth sort say, That he takes care for heavenly and earthly things, but in generall onely, not for particulars, and for every one severally. But there are a fifth sort, wherein* Ulysses *and* Socrates, *who affirm, That I cannot, O God, be hid or deceive thee in the smallest motion.* There is here no place for fortune, nor for casual and needless violence; That Eternal Light spreads his beams every way, and at the same instant he pierceth into all the windings and depths of the Heavens, Earth, and Seas; nor is his Divine Nature onely President over all these things, but is in them all.

CHAP.

CHAP. II.

Of Heaven.

THe Wisemen ascribed the first place amongst bodies to the Heavens; both because it is simple, and also is set in the highest place as principall. Some write, that it is of the same nature with sublunary things, and not amisse; for the Scripture writes, *Psal.* 102. that *it shall wax old like a garment.* Also the generation of new Stars seems to intimate as much: All the space in these that reacheth to the fixt Stars, is filled with ayr; and it is so much the more pure, light, and hot, as it comes nearer unto them, &c. If you consider the magnitude, the Heavens are the greatest body; the Earth is but a point in comparison to it. The number is but one; yet Astronomers have distinguished it into divers orbs, *Eudoxus* into 23. *Calippus* into 30. *Aristotle* 47. *Ptolomy* 31: *Regiomontanus* 33. The common opinion is, that there be Ten; to which if you adde the Heaven of heavens, (*Aquiba* call'd it, the marble Table of the World, *Maimon. l.* 1. *perplex*). they will be eleven. The consideration of the Tenth amongst them is wonderfull; For they say, it is ten times greater than the eighth sphere, and than the earth 1960; and they say, that in 24 hours it goes 469562845 miles, *Bodin. l.* 5. *Theatr.* The Miracles of the 9th are not small. The Antients say, it proceeded one degree in one hundred years; the *Neotericks* have observed 44 minutes. The period of its motion is 49000 years, if we credit *Alphonsus*; but *Copernicus* saith, 25816. This period is call'd, the great and Platonick year. It is a wonderfull Engine, and all the great works of men compared with it, are lesse than nothing. *Plato l.* 10. *de Repub.* imagined a certain spindle, as bright as a Diamond, contain'd in 8 wheels; and he makes the Heaven to hang by that, lest it should fall. But alas poor man, why so? There is a God that supports it; who gave it a power to stand fast at first, when he made it: yet this shall go into smoke, and shews us, that nothing is stable contain'd in this World.

CHAP. III.

Of the Stars.

Artic. 1. *Of the Force of the Stars, and Nutriment of them.*

M*Ahomet* said, That the Stars hang in the Ayr by golden chains: That the Workmaster set them in the Heavens, bright & round, we religiously acknowledge; that they were made for signs and seasons; All men know, that they shine and communicate their vertue to sublunary things; which is done, by sending forth their beams: the will

will of man, and works of Artificers, are out of this account. There is in these no mixture of new qualities; but onely an accidentall species is induced to a body ready made. The mind is free from the Elements; if it suffer any thing, it is by the mediation of the Instruments of the body, the temperament whereof Mens manners easily follow. Hence you may see an errour; *That the characters were formed by a certain position of the Heavens, and are moved by a stronger power from the Heavens. Plato* saith false, *That the Souls before they come into the bodies were made subject to some Star.* These are toyes, That Stars are appointed for every one of us, bright Stars for rich men; little ones for poor men; dark ones for defects; and some for every mans condition, *Pliny l.* 2. *Histor. Natur. c.* 8. *There is not so great Society between Heaven and us, that for our destiny the brightnesse of the Stars should be mortal.* Our chance is in Gods hand: It is false, That *Jacob* read his sons destinies in the Tables of the Heavens.

More writes elegantly of one *White*, in an Epigram:

White *in the Stars did oft his Wife behold,*
That she was chaste and good he all men told;
He look't to find her in the Stars once more,
And then he did proclaim her for a Whore.
But that thy Wife was common, though thou see
Through all the Stars, not one declares to thee.

Cleomedes in lib. de κυκλικῆς θεωρίας, speaks something of the nutriment of the Stars, as *Dalechampius* cites it, and the *Stoicks* observed the same, *Laertius* (in *Lipsius in Manuduct. ad Physiol. Stoicam.*) saith, *That these fiery Stars are fed and nourished, (the Sun and Moon, and the rest) the Sun by the great Sea, as being the great Torch, and a kind of burning endued with understanding: But the Moon, by fresh waters, and such as may be drunk, because it is mingled with the Ayr, and is near to the Earth.* Wherefore *Macrobius in Somnium Scipionis* ascribes it to providence, that the Ocean was placed under the torrid Zone. That all that space which the Sun and the rest of the Planets and the Moon wander up and down in, on this side and that side of the Eccliptick, may have moysture for their nourishment. The opinion seems absurd at first; yet *Ambrosius l.* 2. *Hex. c.* 3. thought so; nor doth *Libavius l.* 5. *de origin. rerum*, seem to deny it. *Lucianus* saith, there shall be a common bone-fire for the world. Whence shall this burning be, but that moysture must fail; and that cannot fail, but for nutriment. Yet see that you make not a combustion amongst the Stars, by assuming an ætherial spirit into the nature of the Stars.

Artic.

Artic. 2. *Of the light of the fixt Starrs, with their magnitude and motion.*

THe 8th sphere contains the fixt Starrs, and those in number numberlesse. Alongtime men observed 1022, which the *Phœnicians* reduced to constellations. *Braheus* added 74, *Houtmannus* 14, about the Antartick pole. *Bartholin. de Cœlo. c.* 3. Also they are of divers magnitudes, yet all greater than the Earth, except the fixt magnitude. The magnitude will give you the vast distance: we see them like sparks of fire, yet Astronomers reckon 14000 diameters of the earth. They have their own natural light which shines to men in the night, not that it is put out in the day by the Sun beams, but that the medium being enlightned admits of the more forcible species, the lesser and weaker is carried through the medium unperceived. *Scalig. exerc.* 6. 2. Historians observe that they have been seen in the day-time, and not without some token. In *Commodus* his times they were seen a whole day, some were drawn forth at length, as though they were fastned in the Ayre. The slaughter of the *Parthians* followed, civill warrs, and the killing of five Emperours in one year. The same thing was seen in the raign of *Constantius*, from Sun rising till noon, about Sun set the Sun first appeared with crooked horns, and then but halfe, some suppose it was an Eclipse. *Cardanus* saw two at *Millan*, *l.* 14. *de varietat. rer. c.* 70. One Anno 1511, and the French were driven out of *Italy*: another 1535, and the death of *Francis Sfortia* followed, and because he died childless, the Prince was changed, *Charls* took the Government. Lastly the 9th of June, this yeare there was one seen in England before noon, when a solemn thanksgiving was made to God for the birth of the Prince of Wales. we were certified that some French men saw the same at *Diep* the same time. There is a wonderfull matter in their motion. Besides their own, which is made from North to South upon the poles of *Aries* and *Libra*, they are said to be drawn by the 9th sphere from west to east. Hence it comes that they are all moved from their places. *Braheus* saith in a hundred yeares they are drawn back, one degree, 25 minuts. *Meto*, who florished in the 130th yeare after *Thales*, observed the Starr of *Aries* to be in the Equinoctiall. *Timochares*, that it gain'd two degrees, *Hipparchus* four and nine minuts, *Ptolomy* 6, and 40 minuts, *Albategnius* 18, and 12 minuts, *Alphonsus* 23, and 48 minutes, *Vernerus* 26, and 54 minutes, *Bodinus* 28 and 20 minuts; The bright one in the utmost tayle of the little dog, which is for the pole Starr, *Hipparchus* observed to be 12 degrees distant from the pole of the world, we see it but almost three now adays. *Cardan* saith, that the heads of the motions of this Orbe will be not only in contrary places, in the year 1800, but the motion will be contrary also, and he collects from thence that there will be strange alterations in the Christian religion, *de varietat. rer. l.* 2. *c.* 3.

CHAP.

CHAP. IV.

Of the Five Planets.

THe wandring Stars are called Planets. The Ancients accounted them to be seven; Those of our times have added four about *Jupiter*, and no fewer about *Saturn*. Each of them hath its own sphere, its nodes, epicycle, and its æquant. Their motion is more free than the rest: sometimes they are present with mortals, sometimes they depart from them. Hence arise the names of *Aux*, and *Absis*, *Perigæum* and *Apogæum* amongst Astronomers. But so great is the difference, that *Saturn* requires 30 years, *Jupiter* 12, *Mars* 2, *Venus* 360 dayes, and *Mercury* as many. *Venus* is a Planet, by her situation, that stands in æmulation with the Sun and Moon. For rising before the Sun, she is called *Lucifer*, like another Sun hastening the day; again shining in the West, she is called *Vesper*, or the Evening Star, as prolonging the light, and standing in place of the Moon, *Plin. l.* 2. *c.* 8. The cause of their wandring motion, some ascribe to the Sun, who either by its beams sets them forward, or removes them on one side, or departing from them, lets them remain in their own places.

Extraordinary influences, Medicaments, Baths, Phlebotomy, Plantings, choice of businesse, change of the Ayr, are by some tyed to the hour of their position. It is observed, that the Plague growes fierce about *Wittenburg*, when *Saturn* moves in *Leo* or *Sagittarius*, and abates by the accesse of *Mars*; the same thing is threatned to them at *Norimberg*, by the signs of *Gemini* or *Sagittarius*. Those that *Mars* and *Saturn* being in the *angles*, assayle with a quartile aspect, are short-lived; if they passe their Infancy, it will be difficult for them to attain the flower of youth; their conjunction increaseth their force.

If *Mars* and *Venus* are in conjunction when one is born, the concupiscible appetite is contaminated; more, if it be in *Capricorn*, and *Mercury* be present. By the concurrence of *Mars*, *Mercury*, and the *Moon*, men have subtile wits, *Peucerus l. de divinat. f. de Astrologia*. But this is a lesser conjunction. That is a great Conjunction, which is made by *Saturn* and *Jupiter*; one happened in the seventy year and 200 dayes. The signs of the Zodiack are run through, that at the beginning of the first meeting there may be a conjunction of the Planets; the Learned called it a revolution, *Alsted. in thesauro Chronologico.*

There are seven reckoned since the World was made, and constant observation hath proved, that none of them ever came without some notable alteration. All things were heroicall in the first conjunction; at the second, men despised *Noah*'s preaching; at the third, there were great pressures in *Egypt*. The fourth was 17 years after, when *Rome* began to be built: the fifth was in the 26th year of Christ. The Bishops of *Rome* pretended the Donation of *Pipin* and *Constantine*, when

the sixth was. Th seventh was in the sign of *Sagittarius*, in the year I was born in, 1603. the last was in *Leo*, 1623. what this shall produce, God knowes.

The City of *Rome* about the 800th year under its fiery signt, was thought to be renewed. At the beginning of that, happened the dispersing of the Jews; what if about the end of it, the calling of them again may be?

CHAP. V.

Of the Sun.

Artic. 1. *Of the Greatnesse and Unity of the Sun.*

Epicurus thought the Sun to be an accidentall Globe, and fire, but *an earthly grosse Body*. *Anaximander* thought it was red-hot Iron; the *Peruvians* think it a GOD; and so did *Aurelianus* a Prince of old; *May* the gods do it, and the Sun the created god, *in Vopisco*. *Porphyry* writes, that it was adored in the East under the name of *Mytra*, in his *Comment. de Nymph. cultu*. And *Macrobius* shews, *l.* 1. *Saturn. cap.* 17. That all the gods of the Gentiles were extended to the Sun. After him *Cluverius Polyhistor, in Germ. antiqua*. So great reverence was there toward it, in the minds of the Gentiles. It is with us the Principall Planet, and the great Luminary. It is greater than the Earth 167 times; and it is distant from the Earth in its *Apogæum*, 1012868 miles, *Kecherm. in his Astronomy*. It is but one, and where is there room for more in so great a magnitude? yet there are more also. That is but one of which we speak, the rest are but figures and draughts of this one beautifull Sun. The Philosophers call them *Parelia*, they have alwaies some future signification, as we frequently observe, and find it.

In 1514. there were 3. seen; in each there was a bloody sword. The Reformation followed. So, many were seen in *Helvetia*, in 1528: a wonderfull Famine was the sequel of it.

In 1532. at *Venice* they were seen with two Rainbowes opposed to the Sun; one presently vanished, but the other was seen for two hours, *Cardan. l.* 14. *de varietat. Rer. cap.* 70. The Suns themselves were transparent, the greater was Southward, the lesse Northward, increasing.

In the year 1314. before the War of *Lodowick of Bavaria*, and *Frederick* of *Austria*, more Suns were seen: they signified the dissentions of the Electors, and their falling to sides. *Peucer. in Meteorol.*

Before these troubles we saw it; a Comet with a fatall tail followed. Because the Empire of *Nero* had the same beginnings, the future event might easily be foreknown.

Artic.

Artic. 2. *Of the Suns light, and Eclips.*

The Thalmudists hold that the light of the Sun was seven times greater in the Creation, but was lost afterwards. We see it very great and ruling almost every where. For the Sun-beams enlighten and enliven all things. *Cardan* maintains that by the force of it, the Southern parts are pressed down lower, but whether it be so; every one may judge. And though at *Rhodes* or *Syracuse* there never be a day that the Sun is not seen in some parts of it; *Plin. l.* 1. *Cap.* 62. yet it is certain that the Suns light is often intercepted. When *Constantine* was blind, the Sun did not shine for 17 dayes. In *Plinies* time it was often 12. dayes, in *Leo's* time 4. dayes. So never seen that Marriners lost their Course *Maiol*, *Colloq.* 1. But this was only a Clouding. An Eclips is somwhat more, when the Suns beams are turned away from by interposing of the Moon. *Barbarians* understand not this, whence *Columbus* foretelling the Moons Eclips, won the favour of the *Indians*. It was a Capital crime in *Plath's* days to maintain that the Moon could hold the Sun beams from us. *Alexander Aphrodis. Problem*, 46. Some thought the Devills were the cause, and therefore ran to assist it with lighted Torches. *Archelaus* was so ignorant, that the day the Eclips of the Sun was, he shut up the Court, and shaved his sonne, as the custome was in time of adversity and of mourning, *Senec. l.* 5. *de benefic. C.* 6.

The Eclipse of the Sun happens in the new Moon, or in the Conjunction, not real, but appearing so, when Sun, Moon, and our eyes are in the same right line. It it be totall, it is in a moment in respect of the parts. It was so when *Scipio* fought and overcome *Hannibal* at *Carthage*, *Zonaras*, *Tom.* 2. *Nicephorus* sayth the same happened at *Augustus*'s death, Somtimes in five yeares some are seen. *Maiolus* thinks they produced Warrs, Famines, and Deaths of Popes. It seemes to be certain that both of them may be Eclips'd twice in six Months, and in five Months, either of them: and that the Suns light may be twice taken from one Country in the period of seven Months, *Peucer.* in Astrolog: Some are of opinion their operation begins afterwards; I dispute not, but this is certaine they never appeare, but they foreshew somthing. When in the year 3343, an Eclips was seen, the most corrupt state of the Kingdome of the Jews appeared. In the yeare 3350. began the 70 yeares captivity. In 3360, the *Temple* and *Jerusalem* were destroyed by *Nebuchadnezzar*. About the Eclips in 1619, Stars were seen at noon-day, and the Warre of *Peloponesus* began with the *Athenians*. In the yeare 360, the Sun was Eclipsed untill noon-day, and also in 592. What followed? *Phocas* confirmed the Popes supremacy, 622, wicked *Mahomet*, sowed his mischief. *Alsted* in *Thesaur. Chronol*: In 812, before the Death of Charls the great, a Spot of a black had appeared for seven dayes, witnesse *Eginhartus*. It seems to intimate, say some, the darkning of the Gospel. In 1415 the 7. of *June*, so horrible was the Eclipse of the Sun, that birds fell to the

Earth.

Earth, At this time *John Hus* was burned in the Councell of Constance, the 6. of *July*. That was supernaturall at our Saviours passion. It was a totall Eclips at a full Moon, and lasted three houres. *Dionysius said of it, Either the God of nature suffers, or the frame of the World dissolves.* He afterwards, consulting with the Philosophers, built an Altar to the unknown God, and was converted by St. *Pauls* Preaching. *Tertullian* in *Apologetico* saith, it was laid up amongst the publike Acts of *Rome*, but forbidden to be published. Also there is a notable use of Eclipses amongst Chronologers, especially of those, which with certain circumstances of time, Yeare, Day, Month, Hour, Minuts, and of the distance from other Eclipses, were exactly taken, such as was the Eclips at *Arbelia* in *Curtius*; or *Peloponesus*, in *Thucydides*; at *Cambisia*, in *Ptolomy*. *Powel* in his *Consilio Chronologico*. For there are certain bounds and Characters of times fastned in the Heavens, hence *Calvisius* commends *Scaligers* Chronology, because he hath observed *Phainomena*, and Eclipses, allmost according to the years of the World, out of the Tables of the Heavenly motions, and are fitted to the same. Hence the *Calyppic* period, comprehended in 76, yeares; in which time all conjunctions of the Planets, new Moons, and full Moons, and Eclipses returne to the same moment of time. See the famous Chronologer *Pavellus*, treating accurately of these things. I hasten to other matters.

Art: 3. *Of the Suns Motion.*

THe *Mahumetans* fain that the Sun is carried with Horses, and sets in the Sea, and well washed rises again. Daily experience sheweth us a double motion, we see it rise every day, and set again: and every yeare it makes an *Oval* figure, passing to North and South. Yet so right under the Ecliptick, that it swarves not a hair from it. The complement of the motion in the *Zodiack* varieth with many. *Hipparchus* assignes to it 365 days. Ours, 6 houres lesse. *Tebitius* saith that there want nine minutes of the 6, houres. *Henricus Mechiniensis*, hath written, that all those shall err perpetually, who observe Eclipses by the Tables of *Ptolomy*, or *Albategnius*. *Bodin.* 5. *Theatri Naturæ*. It is the vulgar tenent, to assigne 365 days, and 6, hours. In that oblique course, we observe the Sun to be nearer the earth, whilst he passeth through the Southern signs, and to be further off in the Northern. That is finished in 178, dayes, 21 hours, and 12 minuts. This requires 186, dayes, 8 hours, 12, minutes. But because the distance of the Eccentrick is variable from the centre of the World, therefore *Melanthon* and *Origanus* write, that the Sun is nearer to us now than in *Ptolomies* dayes, by 9900 miles, but *Copernicus* and *Stoflerus* cast it to bee 26660 miles. *Alsted* in *Theoria Planetarum*. *Scaliger* dislikes this, *Exerc.* 99. *sect.* 2. Nor is it probable, saith *Bodin. l.* 5. *Theat.* in so great variety of distance that the knowledge of Eclipses could be so exactly preserved. The Scripture tells us that the Sun went backward miraculously in *Ezechiahs* dayes, as was known by the shadow on the Diall.

Diall. The History of *Josuah* witnesseth that it stood still, and made a day of 36, houres; *Justin Martyr*, in *Dialog: cum Tryphon*. Some think the Sun danceth when it riseth on *Easter-day*, and honours our Saviours Resurrection in Triumph. If that be so, it is necessary for it to dance a whole day, because it riseth the whole day. What ever this is, it must be ascribed to the Ayre, interposed betwixt, which, about the Sun rising, abounds with Vapours, and if at any time, most in the Spring, because the pores are open, and it sends forth more Vapours, *Camer. Cent.* 2. *Memorab. p.* 39.

Artic. 4. *Of the Inequality of Dayes and Nights.*

WHen the Sun comes to the Horizon, the Day riseth with us; Night comes when the Sun departs. But because it moves obliquely, and is girt within the bounds of both Tropicks, it keeps equality under the Equinoctiall; it varies which side soever it declines: yet the greater it is, the farther the Countries are distant from the equator.

In *Arabia*, a Province of the new World, the Dayes and Nights are alwaies equall. Geographers have written the same of *Peru*, *Ovetan*, *in Summa*.

In a Country of *Africa* called *Gambra*, in the moneth of July, the Night is no shorter than 11. hours; The Sun riseth suddenly without dawning. The *Troglodites* and men of *Africa* have but 13. hours to their longest day, *Strabo*, *l.* 1. They that live under the Pole of the Stars in the spring-Equinox; see the Sun rising; but in the Autumnall, setting; *Mela*. l. 3. c. 2. Hence it is, that they have half a year day, and then half a year night. The *Hollanders*, at the Straights *Vaigats*, from the 4th. day of *November*, to the 24. day of *January*, have found but one continual Night under the degree of 71. *Boetius*, *in the description of the Narrow Sea*, *Vaigats*.

In *Laponia*, one Night lasts 3. moneths, and there is in that time no more light, than the Moon-shine or clear twilights afford, *Zigler. in Laponia*. In the farthest part of *Norway* the Sun is not hid in the night. In another Northern Climate, the Nights are very bright, at the Summer Solstice. *Saxo Grammaticus*.

The Day and Night with us are equall, when the Sun enters *Aries* and *Libra*; they are longer when he is in the Tropick of *Cancer*; shorter in *Capricorn*. The moneth of *June* is said to contain the longest day, the shortest is assigned to the 25. of *December*. The more superstitious are perswaded, that strange things are seen the night before. The Olive Tree, and the white Poplar, and the leaves of Willowes are said to be driven about. *Macrob.* l. 9. c. 7. The moisture in Trees ascends upwards from out of the root. The Apple-tree brings forth blossoms and unripe fruit. Some strings of Instruments are strook with the fingers, and the other strings sound. *Suetonius* l. 1. *Ludicra Historia*. The small livers of Mice are increased. The kernells that are shut up in Apples are turned the contrary way. *Cicero*, *lib.* 2. *de Divinat.*

Artic.

Artic. 5. *Of the Four Parts of the Year.*

THe motion of the Sun through the Zodiack makes a Year. Mathematicians make this to be twofold. The one is the space in which the Sun goes from the Spring Equinox, and returns to the same again; and it consists of 365 dayes, five hours, 49 first minutes, 16 seconds. The other is from the time the Sun departs from the first Star in *Aries*, and returns to the same again; and it consists of 365, 6 hours, 9 first minutes, seconds 23. *Copernicus* appointed this, and he deserved great thanks for it, Of the former there are four parts, Spring, Summer, Autumn, Winter: Spring and Autumn make the Equinoxes; this the Winter Equinox, that the Summer. They both happen, when the Sun passeth the Line. The most certain sign of the Springs approach, is the Butterfly, being a weak creature. *Pliny in histor. Natural.* *Cancer* makes the Summer, when the Sun-beams are verticall with us. It is inflamed by the rising of the Dog-star, saith *Pliny*, l. 2. c. 40. yet it were more Philosophicall to say, that when the Sun repeats his Journey, he raiseth hot blasts and wind; whence our bodies partake of great heat. Truly, sometimes it is extream, if we credit Histories. I read in *Livy*, *l.* 4. *Histor. That in the year of* Rome 322. *not onely rain from Heaven was wanting, but the Earth also wanted its inbred moysture, that the Rivers that run continually were almost dry; that many Fountains and Rivers wanted water, that the Cattel dyed for thirst.*

In the year 1153 the Woods were fired with over-great heat, the fat Earth took fire, and could be extinguished with no rain. *Mergerius.* The *German* Records report, That in 1228, the heat was so great, that the Harvest was ended (I will use their own words) before the Feast of *St. John Baptist.* Lipsius *cites it in his Epistles.*

In the year 1573. the Wood of *Bohemia* burnt 18. Weeks. The *Danube* was so dryed up, that in many places one might foord it. And what is wonderfull, there was no losse in the Corn. But in 994. in the end of July, the Lakes and Waters were so hard frozen, that all the Fishes dyed, and there was great scarsity of water. *Cardan* thinks it is a mark of an over-hot Summer, *de varietat. rer.* l. 15. c. 38. if old sheep are very much given to lust in the Spring. Men write, that there was so pleasant an Autumn in the year, 1584. that the Roses and young branches flourished. It is our Winter when the Sun enters *Capricorn*, then all things quake, are covered with Snow, and bound up with Ice. The Sun foreshews a most bitter Winter in the Northern parts, when he hides himself in a red clowd, as a pillar of fire, and casts out his beams like fiery darts. That descending, it is turned into black. *Cardan.* l. 1. Or when things that use to be moist seem dryer, or drops dripping from houses fall more slowly. And sometimes the winter hath been excessive. Chronicles say, that in 1234. the winter was most fierce, so that in the *Adriatick* Sea the *Venetian* Factors passed over the Ice with their charge of moneys. *Zonaras* reports the

the like to have happened under *Constantine Copronymus*: so in the *Pontick* Sea, and the *Straights* adjoyning. *Marianus Scotus.*

In the year 32. of *Charles* the Great, there was a great and most bitter Frost, so that the Pontick Sea was frozen 100 miles in the East, where it was 50 cubits from top to bottom. In the year 1525. the winter was so cruel, that in *Brabant* an infinite company of Eclos by reason of the Ice went forth of the Lakes, which is a wonderfull thing, and hid themselves in Hay-ricks, and perished there with extremity of cold, *Robertus de Monte.* The Trees had hardly any leafs afterwards in *May.* Sometimes the winters are so calm too. In the year 1225. in December the Peach-Tree budded; In 1186. in December and January, Crowes and other birds hatched their Eggs with young.

But these divers parts of the year for length and duration come from a divers position. They that live under the Pole are ('tis probable) in perpetual cold; and they are more hot that live under the Equinoctiall. They under the Equinoctiall have a double most pleasant winter, and a double Spring. He that would know more of this may read. *Mayolus Collaqu. de proprietat: locor.*

Artic. 6. *Of the Sun's shadow.*

TWo things chiefly are observable concerning the Suns shadow, the operation and the diversity. It can hardly be said how great it is. Men skill'd in the Opticks have described it more acurately. It shews the reason of Eclipses, the Suns magnitude, the variety of Eccentricks, the condition of time hath been demonstrated by it. Men are taught thereby to define the climates and parallells, to prove the Earth to be round, and that the Earths Globe stands exactly in the midst of the Universe, to know the Earths magnitude, &c. Examples shew the diversity; Those that dwell Northward between the Tropick of *Cancer* and the Arctick Circle, their Noon-shadowes are cast Northward, and to the Southern people Southward. They of *Finmarch* and *Groenland*, and that passe the degree of elevation 66, see the shadows run round about them: *Gauricus in Geograph.*

In *Syene* a Town above *Alexandria*, 5000 furlongs, at noon-day on the solstice, there is no shadow at all, and a pit was made to make experiment of it, and the Sun shined to every part in it. *Pliny*, l. 2. c. 73. And in *India* above the River *Hispasis*, the same falls out at the same time, as *Onesicritus* hath recorded.

In the Island of *Meroe*, which is the chief of the *Ethiopian* Country, the shadows fall twice a year, and in Summer they are cast Southwards; in winter toward the North. In the same, in the most famous Haven of *Patales*, the Sun riseth on the right hand, the shadowes fly Southward. It is lastly manifest, that in *Berenice* a City of the *Troglodytes*, and from thence for 4820 furlongs in the same Country, in the Town of *Ptolemais*, which is built on the brink of the red Sea, at the first hunting of Elephants, the same thing falls out 40 dayes before

fore the Solstice, and as many after it, and during those 90 dayes, the shadowes are cast into the South. *Plin.* l. 1.

Art. 7. *Of the Suns Influence on the Inferiour World.*

IT was easie to observe, how powerfully this Eye of the World would work upon Inferiour bodies by his lighter and publique motion. There is nothing in the parts of the year, or dayes, or nights, or variety of shadowes, but must be ascribed to it. When the Sun ariseth, all things are enlightened; when it sets, all are in the dark. Things flourish, when he approacheth; fade, when he departeth: These are generals, and if we respect particulars, are not much lesse. It is certain, that tempests, and seasonable weather are from the Sun. About the middle of *Sagittarius*, and the constellation of *Pisces* by the help of Stars that are in them, and rise, it blowes warm to those that are under it; and, the humours that were frozen being melted, and the earth being watered with them, it produceth the fruitful Western blasts, and stirs up the force of the *Pleiades* and *Hyades* in *Taurus*, and of the Kids from the North, from the South or Orient that is near unto it; and of *Arcturus* that lyes opposite to it, which raise up Southern winds, and for some dayes do water the seed sown with continual rain. *Peucer in Astrol.* When the Herbs are grown and want moisture again for their just magnitude, it affords it and drawes it forth by it, coming up toward the Stars of *Cancer*. *Pliny* takes the signs of Tempests from it, *l.* 18. *c.* 35. It belongs to motion; for *Scaliger* saith, That men sail faster with the Sun. *Exerc.* 86. And *Pliny* l. 2. *Histor.* c. 71, writes, That the Currior *Philonides* ran from *Sicyon* to *Elis*, 1200 furlongs in 9. hours of the day, and came back again, oft-times, though it were down hill, at 3. a clock at night: The reason was, because he ran out with the *Sun*, but returned against the course of the Sun.

CHAP. VI.

Of the Moon.

Artic. 1. *Of the Figures and light of the Moon.*

THe *Stoicks* thought the Moon to be a dark and hairy light. *Cleomedes* supposed it was a ball, white on one side, and blew on the other. We acknowledge it to be a heavenly body, one of the two great Lights that God made. Sometimes there have been two, sometimes 3. seen, as when *Cn: Domitius*, and *C. Fannius* were Consuls, whom they called the Night-Suns. *Pliny*, l. 2. c. 82. She is lesse than the Earth, thirty times 9, or 3. times 40, if we follow *Copernicus*. She is distant from it, 44916 *German* miles; or if we credit *Schrechenfuchsius*, whom most follow, it is 28359. She borrowes her light from the *Sun*. Whence it comes that she hath so many Aspects; she

she is alwaies increasing or decaying, and sometimes she is crook'd with horns, sometimes she is equally divided; sometimes she is crooked, sometimes full, sometimes she is suddenly wane, and the same appears suddenly again. *Pliny*, l. 2. c. 9. The Ancients adored the full Moon as a type of beauty.

There is a merry Tale in *Plutarch* in his *Symposiacks* of *Wiseman* concerning the Moon decreasing. That the Moon asked of her Mother a Coat fit for her; and she answered, *How can I do that? for sometimes thou art a full Moon, sometime a half Moon, and sometimes with two horns.* In *Biarmia* she is never seen but with a full circle toward the surface of the Earth, of a fiery colour, and like a cole. *Olaus*, l. 1.

Artic. 2. *Of the Spots and Eclipse of the Moon.*

THe substance of the Moon is spotted: if you ask the reason, wise men have said that the parts of the Moon are unequally compacted. The Poets thought she carryed a Boy with her whom she loved, who covered his face for shame. When she is deprived of the Suns light, she is Eclipsed. But that is only in a diametricall opposition, when the Moon hath no declination from the Ecliptick, or that which is lesse then 67, minuts, and so it either enters the shadow of the Earth, or cannot avoid it. The antients thought she might be drawn from Heaven by Charms, and being thrust down, she might be compelled. That she powereth forth her venome and force into the hearbs that are subject to her, which may be more successfully used in Magick arts. Hence it was that they tinkled in Cymballs, that the Charms might not be heard. There are no Eclipses of Sun or Moon, but there follow some changes in sublunary things. There was one in the yeare, 3459. And *Darius* at *Marathon* was overthrown by the *Athenians* with wonderfull ruine. another was, 3782. and *Perseus* King of the *Macedonians* was conquered by consul *Æmilius*, and an end was put to the Kingdom of *Macedonia*, *Alsted. in thesauro Chronolog*: Some observe them superstitiously: for example, *Niceas* of *Athens* (*Ubbo Emmius Tom.* 2. *vet. Græc.*) being beaten at *Epipolas* in *Sicilia*; when his Country was in danger, he should have marched away, as *Demosthenes* and *Eurymedon* perswaded him: When he did march, the Moon was Eclipsed. Many took that for an ill Omen: this so moved *Niceas*, that he said he would decree nothing, to remove his Tents, untill three times 9, days were over, that the Wizards had foreshewed. *Plin*: *l.* 2. *C.* 12. He did it, and so wasted the forces of the *Athenians*.

To this may be referred, the ridiculous opinion of some, who think that an Asse drank up the Moon: for when the Asse drank, the Moon was seen in the water, when the Asse went away, she was covered with a Cloud, and could not be seen. Wherefore they cast the miserable Asse *Silenus* rod out into Prison, and cut up his belly, that they might have the Moon again, and they most cruelly took out his bowells. *Delrius*, *disquisit*; *Magic*: *l.* 2. *quest.* 11. In the year, 1499, about setting, the moon was first changed into black; then she was divided

vided into two parts, and the one part leapt upon the other backwards, both parts were sprinkled with red. They united afterwards, and set as one Moon. Many confederacies followed, and the Nobles, who in 1496 were confederate, opposed themselves against the King of the Romans, *Linturius* cited by *Wolfius* in *Memorabil.*

Artic. 3. *Of the Moon's Influence on these sublunary things.*

INnumerable are the operations of the Moon on sublunary things. If you would run over all the field of nature, Plants, Animals and mens bodyes are subject to the Moons Government. *Palladius* reports, (*Cardan de varietat: l.* 2. *c.*13,) If Garlick be set when the Moon is under the Earth, and be pulled up again when the Moon is under the Earth, it will lose its strong smel. So they say that Basil bruised in the new Moon, and put into a new Pot, at the full Moon it will send forth flowers at one end; and if it be set under the Earth twice as long time, it ingenders *Scorpions.* Vines in the day time are nourished by drawing moisture to them, and in the night they increase, and grow. Lillies and Roses open their buttons only in the night. *Keckerman disp: Phys:* 3. *coroll:* 11. *Of all that beare head, only the* Onion is augmented *when the moon increaseth; when it growes new it fades, as if it hated the* course of that *Planet. Lucilius.* Wherefore the *Ægyptians* at *Pelusium* hate to eate it. *Gellius, Lib.* 20. *C.*7. As for living Creatures, *Savanarola* writes that in the Leap-yeare, living Creatures are barren, *Cardan, l. c.* It is observed that in the full Moon all Oysters, Perwinkles, and all shell fish increase, and their bodies decrease with the Moon. Also the more industrious have found out, that the fibres of Rats answer to the dayes of the Moon: and that the little Creature, the Ant, is sensible of this Planets force, and alwaies rests in the Conjunction of the Moon. *Pliny, Lib.* 2. *Cap.* 41. The skins of the Sea-Calves and Sobles are stiffe, and the haires stand upright, when the Moon increaseth, and they sink down when the Moon decreaseth, and grow weak, *Keckerman, l. c.* As for Mankind, if the Moon come to the *Sun* passing thorow *Aries* or *Scorpio*, when any one is born, it so afflicts the brain of him that is borne, that when he comes to be a young man, he shall be troubled with melancholly. Things bred in the Conjunction of the Moon, are frequently dry, and are encumbred with a sharp heat, and have all their limbs especially affected, *Peucerus de divinat.* They that sleep under the Moon-beams, are troubled with heavinesse of their heads and defluxions. *Camerar. Memorab. Cap.* 9. Art. 85. For by the Moon beams, the moisture of the braines of those that sleep is melted, which being restrained in the head, the internall heat being not active enough to expell it outward, it breeds Catarrhs. The Epileps is exasperated in the full Moon. For the abundance of moysture hinders the sharpnesse of Vapours, and the putrefaction that they cannot breath forth. A smaller quantity doth more easily corrupt, and the heat acting upon it, makes sharper Vapours according to its proportion, *Libavius, tom.* 3. *Singul, lib.* 3. *cap.* 18. At the same time Dropsie-

dropsie people are grievously tormented, and therefore they all dye almost about the full Moon. Truly, in *March*, 1629. when we writ this, it took away that Reverend man, D. *Martin Gratianus* the superintendent of the Reformed Churches in the greater *Poland*, who was the Chariot and Horsemen of *Israel.* Let his memory be blessed.

When the Moon is opposite to the Sun, mad-men rage most. They that are troubled with a disease of the brain from too much plenty of brain, are choked in the full Moon. Hence it is that the *Britans* on the 14. day of the Moon whip mad folks. *Bodin. l.* 5. *Theatr.* Better therefore it is to give a medicament against the Epilepsie the day after, than in the opposition of the Luminaries. For in the hour of conjunction the Moon is calm, nor are there propensions to either sides of advantages; the next time after it, she begins to work in the humours, and to augment them. *Libav.* Epist. 15. to *Schnitker.*

CHAP. VII.

Of New Stars.

WEe have spoken of those things that ordinarily are done by Nature in Heaven. I will now adde some things which the right hand of God hath produced above nature. I mean new Stars, which have appeared, and not being of long continuance, have shortly disappear'd again, and vanish'd from our sight. The Star at our Saviours birth is the chief, which (*Fulgentius* saith) had no place in the Firmament, nor in the Ayr. It went forward with an uncertain motion, sometimes it shewed it self, and sometimes it was hid. *Damascenus, l.* 2. *Orthodox. fidei.* *Chalcides* the Platonist speaks thus of it, upon *Timæus* of *Plato*; *There is also a more holy and more venerable History that relates, that by the rising of a Star that was unusual, not Death and Diseases were foreshewed, but the wonderable descending of God, for man's salvation, and in favour of mortall things, which men testifie to have been observed by the* Chaldæans, *who adored God with gifts, who was newly born.* Whence they learned the knowledge of its apparition, is shewed in the Books of *Balaam* the Southsayer, wherein are many fabulous things.

The other is that which appeared in the year 1572. This is that year, wherein that Bartholmy-slaughter was acted at *Paris*, in which (not excluding other places) 30000 men were slain, 100000 of honest Families were oppressed in three dayes, Widows and Orphan Children innumerable being brought to the greatest beggery or want. *Prisbach. in Respons. ad oration. habitum apud Helvetios.* The summe was so great, that the wiser sort that were no wayes addicted to the Protestant side, when they were come to themselves, and considered the sad condition of things at that time, and disavowed the Act, and sought out curiously the causes of it, and excuses for it, they judged that there was no such Example of cruelty to be found in all Antiquity, should their Chronicles be searched into. *Thuan. l.* 53. *Editor.*

That

That that appeared the 6th. of the *Ides* of *November*, under the Constellation of *Cassiopæa*; some men said, it was in the Firmament itself amongst the heavenly spheres. It had neither Tail, nor hair, but like the other Stars, it sent forth beams equally. The Diameter of it contained the Diameter of the Earth 7. times and ½ part; and it was greater than the Earth 361 times and ½, it was bigger than the Sun twice and ⅓ parts. *Tycho Brache*, 1. *part*, *Progymnas. Astronom.* Yet this Eminency of greatnesse and light decreased afterwards by degrees, untill it vanished quite away. It had no motion, except that which it had common with the fixed Stars, it alwayes held the same Position to the neighbouring Stars in *Cassiopæa*. It lasted 16 months. What was foreshewed by it, is variously determined by divers men. *Gemma Frisius in Cosmocritica*, writes, That since the birth of Christ there was hardly any apparition to be compared with it, whether we consider the height of the sign, or the rarity, or the long continuance of it. The *Britans* ascribed it to the lamentable death of *Mary*. An *Oxford* Astrologer was Authour of this opinion, who by *Cassiopæa*, the Sister to King *Cepheus*, said, That some Queen in the North must be noted out by it; and by its 16 moneths continuance he foreshewed, (I know not according to what calculation of the *Arabians*, and the ascending of the Star into the upper parts,) That that Northern Queen after 16 years should ascend up into heaven. The event made good his prædiction. *Thuan.* l. 5. 4 *Molerus* seemed to expect a new Prophet by it, in the year, 1599, and the conquest of the Gospel over all through the World.

Liborovius foretold, but falsly, War, in 1619, and the banishment of the chief Prince in *Germany*, in 1620; the restoring of him again by the Eastern Countries, in 1627, and many such like things.

There is extant concerning this Star a godly and excellent Copy of Verses of a certain famous Writer, which I here set down:

Whether that Comet without blazing tail,
That shines as clear as do the fixed Stars,
Shall in succeeding times so far prevail,
As to raise Dearths or Plagues, or bloody wars;
God onely knowes, and after-times will shew.
But if Man's Wit can any thing foretell,
'Tis not amisse to search such signs are new,
And lift our minds above this place we dwell.
This is that Star which did the wise-men bring
From the East land, to Bethleem, *and there*
In David's *City, born was the great King.*
It now foreshewes again, and doth declare,
That God is coming: cruel Herod *fear!*
Good Men rejoyce, your Redemption drawes near.

The fifth month after the Starre disappeared, *Charles* died of a bloody flux. The third was seen in the yeare, 1577. in November, and which the following yeare vanished, *January* the 28; *Mestlinus* placeth this in the sphere of *Venus*. *Tycho* writes that the head was 382 Germain miles *diameter*. *Dantzick* was then besieged, and 1578, the Warre of *Moscovia* began. It was supposed to portend the Death of great Men. In that yeare (*Thuan. l.* 65.) after a desperate fight in *Africa*, *Sebastian King of Portugall* died; and *Melchus Choriffus King of Morisco Trigitana*, whom he came to subdue. And *Mahomet* that caused the Warre was drown'd. 8000. Christians were slain, and as many taken Captives, allmost all the Nobility of *Portugal* fell into the hands of the *Mores*. That was done in one day. *Portugal* came out under the Government of *Philip*. Then in 1604, about the beginning of *October*, a fourth new Starr appeared in the 17. degree of *Sagittarius*, and was from the Ecliptick, but 37 minutes. *Astronomers* say, it was between *Saturn* and the 8. Sphere; yet that seems absurd. *Reckerman in his consultation concerning the Starre in the year*, 1604. *Thes.* 53. Also because it had its own proper motion, distinct from the Sphere of *Saturn*, and the fixed Starrs; and the Starrs move in and with their Orbs, but that had none. *Crabbius* saith directly, that it was from the Center of the Earth 22267636 miles, and from the superficies of the Earth, 22266777 miles. *disput. de Comet. Thes.* And hence he concludes it was greater than the Earth, 91 times; and hence he proves it was above *Saturn*, being from the Earth 1007250 miles. It shined full four Months: and after that was to be seen from the 28 of *November* with *Saturn*, from the 29. with *Sol*, and from the 17 of *December* with *Mercury* in Conjunctions; and with *Mercury*, *Mars*, *Sol*, in oppositions, the *May* following, which was supposed to portend great consultations, confederacies, and changes in *France*, *Spain*, the Low Countries, *England*. *Thuan. lib.* 131. But the opposition that fell out on the 6, of *June*, was held to be *Ominous*, and men conjectured that this Starr would cause Warrs and calamities to many Countries, and chiefly to *Germany* in point of Religion. An excellent Mathematician *Keplerus* writ concerning it, and who was no whit guilty of Astrologicall superstition, by the testimony of *Thuanus*. See him. I call these apparitions *Starrs*, not that I am ignorant, that they are referred to Comets, but because I find that in the *Skye* they are placed amongst the second moveables, and are call'd celestiall, which is not agreeing to Planets: and I thiuk it more fit to call them Starrs, than by naming them Comets, to overthrow the doctrine of Meteors received from the Antients.

CHAP. VIII.

Of Astrologicall Prædictions.

Concerning *Astrologicall Prædictions* many men have many minds. Some magnifie them, others reject them as idle vanities. It is certain that natural actions, as the changes of dayes, nights, yeares, sea-

seasons, because they have determinate causes in the position of the Starrs, may be foretold by them. Yet because the matter of the elements is mutable and flitting, many particular causes overthrow general causes, and many Starrs in both motions are yet unknown; and some of them somtimes are opposite to the others forces: also most experienced Artists are few: and lastly there is a vast distance in placing the beginning and ends of the Houses, and proprietics, and therefore it is no wonder if error creep in. *Bartholin de cælo.* And if we observe particular and individuall actions, the errour will be the greater, for beside the generall influence of the Starrs, there is a special influence which ariseth from the speciall complexion. The indisposition of the matter hinders the good influence of Heaven; and the goodnesse of the temper derived from the Parents, keeps off the bad influence. We know that *Jacob* and *Esau* were born at the same time, in respect of the Heavens position, yet was their fortune most different. In civil actions the Starrs have nothing to do. It is an elegant saying of *Bodinus*: *Lib. 4. de Rspub. Cap. 3. There is but one Rule*, saith he, *of all Philosophers, even of those that idly dispute of what is done in the Heavens; that a wiseman is not under the affection and power of the Starrs; but only those who like beasts are ruled by their appetites and desires, and will not be subject to reason and good lawes, whom* Solomon, *the Master of wisdome threatned sharply with punishment of the rack*: yet many have adventured to make triall. The *Caldeans* by mens actions collected the day of a mans Birth, and from the day of a mans Birth, the fortune of his whole life; And that men should not reject them, they boasted they had spent 470, thousand yeares in the experience of this Art. And so bold they were, that they vaunted that it was a thing as necessary to be known, how the position of the Starrs and the force of the Heavens were, when a man would build a house, or make, sow, or put on his Cloths, as to know how they were disposed when Children were new born. *Lucius Tarutius Firmianus*, by the acts of *Romulus*, his Life, and Death, found that he was born in the first yeare of the second *Olympiad*, the 23. day of the Month; *Peucer de divinat. sect. de Astrologia* and born in the 21. day of the month *Toth*, about Sun rising. And hence he found out the first day that *Rome* was built, and that it began when the Moon was in *Libra*, the Sun with *Mercury* and *Venus* in *Taurus*, *Jupiter* in *Pisces*, and *Saturn* with *Mars* in *Scorpio*. To this purpose we may refer him, who by the first day of *January*, would foretell all events.

If that a Rain-bow in the Sky appeare,
God is well pleas'd with man, they need not fear.
If burning Meteors from the Heavens shine,
Of great long during heats they are the signe.
If Thunder Rore, or Rivers overflow,
This foreshews Tempests as all seamen know.
But if the Earth be stird and seem to quake,
This shomes Religion will be brought to'th stake.

If

If Rivers freez, it then portends great joy,
Each woman shall conceive and beare a Boy.

Mayol. Colloq. 1. Canicular. Of such, this is true: These Mathematitians by a false interpretation concerning the Starrs, and by their lyes, cast a mist before those that are light and foollish witted, for their own advantage; *Valer. Maxim. l.* We have examples of their fraud in *Nicetas Chronias*, otherwise a prudent *Historiographer*. In our times (saith he) the Emperours do nothing but by advice of Astrologers, and they make choice of dayes and nights to do their businesse, as the Starrs shall dictate unto them. Therefore *Alexius* the Emperour, desired long to know when he might seasonably return to *Blacherna*; at last the day and houre were chosen according to the Starrs. He returned, and that so happily, that the Earth opened very deep before him; and he escaped, but his Son in law *Alexius*, and many of his Nobles fell into the pit, and were hurt, and one *Eunuchus* that was a favorite perished. That of *Manuel* is more ridiculous: when he was Emperour, they of *Sicily* and *Italy* had possessed themselves of the Sea before *Constantinople*; he had somtimes sent out a Fleet, but with ill successe. Wherefore the Mathematicians were consulted to assigne a more prosperous time: *Constantinus* a famous man prepares himself, but he was once more called back again; because the Prince had found, that the inquiry was not so certainly and wisely made as it ought to be, and there had been some errour. The Scheme was therefore set once more, and *Constantinus* was sent forth on the day chosen: He was scarce got to Sea, but he and all his forces were taken; *Lipsi. in monit. polit.* A brave art; yet I wonder, since I read of some that were seldome frustrate of their ends. *Nigidius Figulus*, foretold to *Augustus*, that he shonld be Emperour, (*Xiphilinus*). *Thrasyllus* foresaw the Empire of *Tiberius*, and his own danger when he was on the *Tower* with the Prince, and should have been cast down headlong; *Sueton. in Octavio*. *Largius Proculus* gave notice of the day that *Domitian* should dye; *Ascletarius* foretold the kind: and being required of him to answer what kind of death, he himself should dye, he said he should be eaten with Doggs: and so it was. For though *Domitian to* disprove him, commanded that he should be burnt, and he was then burning, yet a tempest rose suddenly, and put out the fire. The spectators ran away, and the Doggs came and devoured him, *Sueton.* in *Domitian*. *Josephus* that wrote the Antiquities of the *Jews*, saith, that he foretold to the Emperour *Vespasian*, and to his Son *Titus*, that they should be Emperours. We know it was so. *Petrus Leontius*, a Physitian of *Spoletanum* foresaid, that he himself was in danger of drowning. And he was found afterwards drownd in a pit, *Jovius, Elog.* 35. The Arch-Bishop of *Pisa* consulted Astrologers concerning his destiny: they told he should be hanged; *Annal. Florentin.* It seemed incredible when he was in so great honour; yet it proved to be true. For in the sedition of *Pope Sixtus the fourth* in a sudden uprore he was hanged. *Richardus Cervinus* had foretold to his son *Marcellus*, that he should come to

great

great dignity in the Church. Hence he conceiving hope of it, when he was invited by his Mother *Cassandra Benna*, to marry, refused it stoutly; saying, *He would not with the bands of Matrimony bind himself from a greater fortune that the Stars foreshew'd unto him, living single and unmarried:* Thuan. l. 15. It so came to passe. *Lucius Gauricus* delivered this in his *Book of Nativities.* Which Book, (and it is a very wonderfull thing) saith *Thuan.* l. 1. was published at *Venice* three years by *Curtius Trojanus*, before *Cervinus* was proclaimed Pope. This was that Pope, who when the Reader, as the manner is, read the Scriptures, or Writings of the Fathers at dinner time, said, *He could not perceive how those that held so high a Place, could provide for their own salvation.*

These are Examples of Predictions made good by the Events, *Lipsius, l.* 1. *Monitor.* ascribes some to inspiration: *Delrius* refers some to compacts with the Devill, *l.* 4. *Disquisit. Magic. cap.* 3. *quæst.* 2. Certain it is, that God sometimes suffers them for a punishment to those that are so bold, and that they are true but by accident onely. See *Delrius*, who handles this Argument largely.

The End of the First Classis.

Of

Of the Writings of Wonders in Nature.

The Second Classis.

Wherein are contained the Wonders of the Elements.

WHat is the chief thing in humane affairs? Not to fill the Seas with Ships, nor, to set up standards on the shores of the red Sea; not where Land is wanting, to wander in the Ocean to injure other men, and seek out unknown places: but to see all with the mind; and, than which there is no greater victory, to overcome our vices; *Seneca, Natur. quæst. l.*3. *Præf.*

CHAP. I.

Of Fire.

Artic. 1. *Of the Wonderful beginning of Fire.*

FIre was a long time unknown to the Antients, especially if you respect them who in the utmost borders of *Egypt* dwelt by the Sea side, *Plin. histor. Natural.* l. 16. c. 40. When *Eudoxus* found it, they were so pleased with it, that they would have put it in their bosomes.

Fire, is not unknown to us. So great is the variety of it, and it is so manifold, that I know not what order to deliver it in. *Pliny* saith it is from it self; steel rubb'd against steel causeth fire. Also the stones we call fire-stones, stricken against steel or other stones, send forth sparkles. Therefore the *Laplanders* begin their Contracts of Marriage with the fire and flint, *Scalig. Exerc.* 16. *s.* 1. For fire with them is the Authour of life, and the flint is eternal, wherein the treasure never fails. It is in vain to try that in a brittle stone: for the piece falling away, that which should draw forth the Ayr is lost. The rubbing of sticks one against another will fetch fire. The *Indians* do so; They make two sticks fast together, and put another stick between them, turning it swift like a wimble, and so they make them take

take fire, *Ovidan.* l. 6. c. 5. In *Apulia* they wrap Cattle in cords, and draw them as fast as they can forward and backward, till they fire it by motion, *Mayolus Colloq.* 22. The Vestall Nuns did the same, when their eternall fire went out, if we credit *Festus*. In *Nymphæus*, a flame goes out of a Rock, which is kindled by rain. *Aristotle* saith, *in Admirand.* it is not perceived untill you cast oyl upon it, and then the flame flyes upward. We find also in Authours, that in the Country of the *Sabins*, and *Apulia*, there is a stone that will fire if you annoint it, *Plin.* l. 2. c. 107. In *Aricia*, if a live cole fall on arable ground, the ground will burn. In a Town of *Picenum*, *Egnatia*, if wood be laid on a certain stone, that they account holy there, it will flame presently. Also a flame goes forth at the waters of *Scantia*, but it is very weak at the going forth, and will not last long in any other matter. Also at *Gratianopolis* in *Dauphin*, flame shines out, when you stir the burning Fountain with a staff, so that straw may be kindled by it; *Dalechamp. ad l. c.* The fire of the Mountain *Chimera* is kindled by water, *Plin.* l. 2. c. 106. If you hold a glasse Globe full of water in the Sun, fire will rise from the repercussion of the light from the water, in the coldest frost: *Lactan. de ira Dei*, c. 10. Sometimes also fire ariseth so suddenly in houses, that it may be thought wonderful. *Cardan. l.* 10. *de varietate*, c. 49. ascribes the cause to the salt, and Salt-Peter that sticks to the walls of the houses. Which *Valerius* reports concerning the Schollar of the vestall Nun, *Maxima Æmilia*, l. 1. c. 1. that she adoring Vesta, when she had laid her fine linnen veil upon the hearth, the fire that was out, shined forth again: an old wall being scraped down, he writes, that it might take fire onely by hot Ashes.

If you look in the Bible, you shall find a wonderfull originall of fire in it, 1 *King.* c. 18. *Elias* when he offered sacrifice brought fire down from heaven, which consumed the sacrifice, wood, stones, dust, and water. In the Book of *Judges*, Ch. 6. when *Gideon* at the command of the Angel had laid flesh and bread upon a stone, and poured Frankincense upon them, fire came forth of the stone, and consumed them.

Artic. 2. *Of Fires in the Waters.*

IF we will credit Histories, it is most certain, that fires have been seen in the waters. *Pliny* saith, *lib.* 2. *c.* 107. That the whole Lake *Thrasimenus* was on fire. That the Sea did burn, *Liv. lib.* 33. when *Alaricus* wasted *Italy*, and *John Chrysostome* was driven from his Bishoprick, the Earth quaked, fire fell from Heaven, and a wind took it, and cast it into the Sea, which took fire by it, and at last went out again; *Niceph. l.* 13. *c.* 36. In the fields of *Babylon* there is a Fish-pond that burns, which is about an Acre of ground, *Plin. lib.* 2. *c.* 106. A stone cast into a Lake near to *Densladium* of *Thuringia*, when it sinks to the bottom, it hath the form of a burning arrow; *Agricol. lib.* 4. *de nat. affluent. c.* 22.

In

In a City of *Comagena*, called *Samosata*, there is a Lake that sends forth burning mud; *Plin. l.* 2. *c.* 104. *Posidonius* saith, that in his time, about the Summer Solstice, in the morning, that between *Suda* and the Sea of *Evonymus*, fire was seen lifted up to a wonderfull height, and to have continued so a pretty while, carried up with a continued blast and at length it sunk down. Many dayes after, *Slime* appeared, that it swam on the top of the waters, and that flames brake forth in many places, and smoaks, and soot, and at length that *Slime* grew hard, and that the lumps grown hard, were like unto Millstones. *Julius Obsequens* adds, that it dispersed a great multitude of fish, which the Liparenses much feeding on, were spoiled by them, so that the Islands were made wast with a new *plague*, *Strabo.* l. 6. Between, *Ther* and *Therasia* which are in the *Cyclades*, flames went out of the Sea, in such abundance, that is was extreme hot, and seemed to burn; and when it had swelled by degrees, of the peices cast out, that were like to Iron, an Island was made, which was called *Hiera* and *Automate*, now it is called *Vulcanellus*: by a very small arme of the Sea, it is parted from *Vulcanellus*. *Plin.* l. 2. c. 87.

Artic. 3. *Of Fire under the Earth.*

I Said that fire was also in the waters; now I will shew that in the bowells of the earth fire is generated. When *Claudius Nero* was Emperour, fire was seen to come forth of the Earth, in the land of the Town of *Colein*, and it burnt the Fields, Villages, Houses; now because the matter of it was bituminous, and could be quenched neither by raine, nor River waters, nor by any other moisture, it was extinguished by Stones and old Garments. In *Misena* a Country of *Germany*, a Mountain of Coles burns continually, the trenches falling down by degrees in the superficies, which if any man behold, they appear to be burning Furnaces. The fire kindles any thing neere to it, at four foot distance, but not put close to it. *Agricol. de natur. effluent. ex terr.* *Vesuvius*, also a Mountain in *Campania*, burned, when *Titus Vespasianus*, and *Flavius Domitianus* the seventh, were Consuls. First it cast out Stones from the top broken open; after that, it cast forth such Flames, that two Towns, *Herculaneum*, and *Pompeii* were set on fire; and it sent forth such thick smoak, that it obscured the Sun; and lastly it blew forth such a quantity of Ashes, that like snow it covered the Neighbour Country, which by force of winds was carryed into *Africa*, *Ægypt*, *Syria*; *Dion. Cass.* in *Histor.* When the Elder *Pliny* beheld this Fire, (the Younger in *Epistol. ad Tacitum*) the smoak so stopped his sharp artery, that his breath being intercepted, he was choaked. There is also a mountain of late in *Campania*, full of rifes, from the time the fire was bred there, which burns and rores within, and sends forth smoak in many places, and very hot brooks, the shore smoaks at the foot of the Mountain, the sand is hot, & the Sea boyles, *Agricol, l. c.* In the same place, there are many ditches covered with sand, into which some that have viewed these things carelessly

lessly have sunk in, and were stifled. This is in *Europe*. In *India*, there are no lesse burnings by fire. In *Ciapotulan*, a Province of the Kingdome of *Mexico*, a Mountain casts forth stones as big as houses, and those stones cast forth have flames of fire in them, and seem to burn, and are broke in pieces with a great noise; *Petrus Alvarad. ad Cortesium*. In the province *Quahutemallan*, of the same Country, two Mountaines within two Leagues one of the other, vomit out fire, and tremble; *Petrus Hispalens. p. 5. c. 23.* In *Peruacum* also, out of the Mountain *Nauvata*, the Fire flies out at many holes; and out of one, boyling water runs, of which salt is made. In the same *Peruacum* in the Town *Molabalo* fire is vomited forth, and ashes is cast out for many dayes, and covers many Towns. There is an Island next to great *Java*, in the middle of which land there burns a perpetuall fire *Odoard. Barbosa*. In the Island *Del Moro*, there is a Fire cast forth with such a noise, that it is equall to the loudest Cannon, and the darknesse is like Night. The Ashes so abound, that houses have sunk down under them; and Trees have been barren for three yeres, their boughs being lopt off, all places are fild with Ashes, and living Creatures destroyed with hunger and pestilence, also sweet waters have been changed into bitter. *Diat. Jesuita.* Also there are concealed Fires, namely there, where the waters run forth, hot, warm, or sower, or where exhalations break forth, good or bad, and where places seem adust. *Strab. in Geograph*: There is a Country in *Asia*, which is called *Adust*, which is 500 furlongs long, and 50 broad, whether it should be called *Misia* or *Meonia*, saith *Strabo*. In this there grows no Tree but the Vine that brings forth burnt Wine, so excellent that none exceeds it. You may not think that those Fires stay only in one straight place, for they pass many miles under ground; *Agricol. l. 4. de nat. Essl. c. 24.* in *Campania*, from *Cunæ*, thorough *Baianum*, *Puteoli*, and *Naples*. Also out of *Campania* they seem to come as far as the Islands, *Ænaria*, *Vulcania*, *&c.* Hence *Pindarus* elegantly faigned that the *Gigant*, *Typhoo*, being stricken with a Thunder-Bolt, lay buried under these places.

Artic. 4. *Of the Original of Subterraneall Fire.*

WEe will now search out the original of these Fires, and what it is that kindles and nourisheth them. The Poets speak Fables concerning *Ætna*, (but of this, more in the 4th Chapter.) *Hyginius Mytholog. cap. 152. Hell, of the Earth begat Typhon, of a vast magnitude, and a wonderfull shape, who had* 100 *Dragons heads that sprang from his shoulders; He challenged* Jupiter, *to strive for his Kingdome.* Jupiter *hit him on the breast with a burning Thunder-bolt, and having fired him, he cast* Mount Ætna *upon him, which is in* Sicilia, *and from that time it is said to burn yet. Isidor. l. 14. c. 8.* ascribes it to Brimstone that is kindled by the blasts of winds. *Justinus* affirms, that it is nourished by water. *Bleskenius* relates of *Hecla*, that no man knowes by what fire, of what matter it burneth; but since that brimstone is dug forth of all *Islandia*, it should appear, that a brimstony matter was som-

sometimes kindled there. Not far from *Hecla* are Pits of brimstone, saith *Bertius*, in *Islandia*. That is certain, that brimstone affords nourishment for this fire under ground, and it is such as will burn in water. For in these Mountains Writers make mention of waters; and we have shew'd, that it hath sometimes burned in the Sea. But *Lydiat; L. de orig. font.* thinks, That in the gulfs of the Sea, a most violent fire is contained; and he demonstrates this by Earth-quakes. Therefore the food of it cannot be dry, and like to the Earth which we call *Dorsa*; for that is quickly consumed by fire, and is quenched by water. Nor is it *Marle*, for that will not burn, unlesse it be sulphureous and bituminous. Brimstone burns indeed, but it is soon put out with water; therefore it is Bitumen; and this seems to be the subject of it.

Strabo writes, That there are under this Cave, Fountains of water; and *Pliny* addes, *l. 2. c. 106.* that it burns with water running from Bitumen. Burning Bitumen sends forth fire in *Hecla* a Mountain in *Islandia*, which consumes water; The stones of Rivers and the sand, burn at *Hephestios*, a Mountain of *Lycia*, and they are bituminous. *Naphta* is very near akin to fire, and it presently flames; *Pliny, l. c.* Wherefore we think Bitumen to be the food for these fires, and they are kindled by a fiery vapour that takes fire, if but cold thrust it forth, as the Clowds thrust out lightnings, or drives it into some narrow places, where rolling it self up and down, and seeking to come forth, it burns in the conflict, and flames; *Agricol. lib. cit.*

Artic. 5. *Of the Miracles of Fire in duration, burning, and in being Extinguished.*

SOme Fires are perpetuall. The stone *Asbestos*, once lighted, can never be extinguished; therefore Writers say it was placed in Idol Temples, and the Sepulchres of the dead; *Solinus, c. 12.* There was a Monument once dug up, wherein was a Candle that had burned above 1500 years; when it was touched with the hands, it went to fine ashes: *Vives ad lib. 21. de Civitat. Dei.* *Vives* saw wicks at *Paris*, which once lighted, were never consumed. In *Britany* the Temple of *Minerva* had a perpetual fire; when it consumed, it was turned into balls of stone; *Solinus, c. 24. Polyhist.* The same thing is written of a certain Wood near to *Urabia* in the New-found World. There are some fires that burn not, either not at all, or in some certain matter, or else miraculously. In *Pytheusis*, saith *Aristotle admirand. c. 35.* there is a fervent and hot fire that burns not: An Ash that shadowes the Waters called *Scantiæ*, is always green. *Plin. lib. 2. c. 107.* In the Mountain of *Puteoli* consisting of Brimstones, there is a fire comes forth, that is neither kindled nor augmented by oyl, nor wax, or any fat matter, nor is it quenched with water, or kindled, and it will not burn towe cast into it, nor can any Candle be lighted by it. *Mayolus Colloq. 22.* he conceives it is not fire, but fiery water. Near *Pathra* in *Lycia*, flame is cast forth of a field, you shall feel

feel the heat if you put your hands to it, but it will never burn. The parts of the ambient ayr that are cold and moist, are said to be the cause of it, that by their thinnesse entring into the fire, do hinder the burning of it. Some napkins made of a kind of Flax will not burn: and being durty, they are never washed; but being cast into the fire they are made clean; *Lemnius in l. 2. de occult.* That kind growes in the deserts of *India*, where such is the condition of the Ayr, and the quality of the Earth, which causeth such a temper of the Plants, that they may be spun and woven into linnen Cloth. Wood and Planks, if they be anointed with Allum (I add, and smeared with Eggs) they will not burn, *Plin. l.29. c.3.* Nor will posts painted with a green colour, so you do it thick, and Allom with the ashes of white lead be plentifully mingled with the paint: Because the wood is thickned and hardened, the fire cannot enter. Hence it was, that *Sylla* could not fire a Tower that was smeered with Allom. *C. Cæsar* set fire to a Castle near to *Po*, that was built of Larch-tree, and it would not burn, *Vitruv. l.2. c.9.* for the Larch tree is not onely free from rottennesse, nor will it resolve into coles. The cause is the compacted matter, *Lemnius, l. c.* What shall we say of *Pyrrhus*, on whose great joynt of his right foot, fire could not prevail? What of *Zwinglius*, whose heart was not touched after his body was consumed by fire, *Thuan. l. 5. Histor.* The Salamander lives safe in the midst of the flames, if we credit *Pliny*; And the bottom of the Cauldron is cold, when it stands in the midst of the fire, and the water boyles, the sides are red hot. Yet *Dioscorid.* writes, *l.2. c.52.* That the Cauldron being cold by nature, doth for a while keep off the fire by being so near to it, but at last it burns and wastes. The reason of this is from the Pyramidall figure of the fire, which ascends in a point, and the thin parts rise up first; the thicker are cast to the sides; *Keckerm: Disp: 4. Phys: coral: 10.*

In the Scriptures we have examples, God appeared to *Moses* in a flaming bush, the bush did not burn, *Exod.* Ch. 3. *Elias* was taken up into Heaven, with a fiery Chariot and horses. The three Children, cast into the fiery furnace in *Babylon*, had not a hair touched, and they were consumed that came but near, *in the Apocryph: ad c. 3. Daniel it. Eugenius* relates what befell an Hebrew Boy at *Constantinople*. So much for Burning.

Now for putting it out: A certain fire came forth of Mount *Hecla*, which is extinguished with Towe; that which comes forth of the *Mount Chimæra*, is put out with Hay, or Earth: At *Cullen* of the *Ubii*, with stones, or cloathes. But when *Charles* Duke of *Burgundy* had taken the City of *Geldria*, the ground was burnt, the grasse and roots burned, the fire could be extinguished by no art of man; it penetrated into *Burgundy*; *Fulgosius, l. 1.* To these I shall adde those Chymicall devices of *Tritenhemius*, whereby he procured everlasting fires, as an *Anonymus* reports in *Aureo vellere*, in the name of *Bartholmæus Korndorferus*. Now there are two Eternal Lights. The first of them is made by mingling brimstone and calcined Allum, 4. ounces, and by subliming them, they are made flowrs. He joyned 2 ounces and a half,

half, to 1. ounce of *Hermes Vectis* like Crystall; and to these being bruised, and put into a hollow glasse, he poured on the spirit of wine, four times distilled, and making digestion, and drawing that off, he poured on new, and he did this twice, thrice, or four times, untill the brimstone, made hot upon plates of brasse, would run like wax without smoke. This is the food of it. Afterwards the Wick must be thus ordered; The small shords of the stone *Asbestos*, about the length of the little finger, and about half so thick, must be tyed together with white silk. The Wick thus made, is sprinkled with brimstone, of the foresaid matter in a Venice-glasse, and it is put under ground, and is boyled in hot sand 24 hours, the brimstone alwaies boyling upon the wick, so anointed and wet, is put into a hollow glasse, that it may a little come forth, the prepared Brimstone is heap'd on, the glasse is set into hot sand, that the Brimstone may melt and hold fast to the wick, then will this set on fire, burn with a continual flame: you may set the Lamp in any place. This is the first eternal Fire.

The latter is made thus: To a pound of decrepit Salt pour on strong Wine Vinegar; Draw it off to the consistence of oyl, pur on new, let it steep, distill it as before, and do this four times. Infuse in this Vinegar glasse of Antimony finely powdered, one pound; set the infusion in hot ashes 6 hours in a close vessel, and draw out a red tincture; Pour off that vinegar, and pour on more, and draw it off again, repeating the labour, untill all the colour be resolved and drawn forth; Coagulate the extractions to the consistence of oyl, and rectifie it in Balneo till it be pure: Then take the powder of *Antimony*, out of which the rednesse was drawn, and make fine flower of it; put it into a glasse, and pour on the rectified oyl; draw it off, and pour it on 7 times, untill the body have drank in all its oyl, and become dry. Draw out this by the spirit of wine, changed so often untill all the substance be drawn forth; distill the *Menstruums* collected in a Venice Viol, covering it with a five doubled paper, that the spirit coming forth, the incombustible ayr may remain in the bottom; which must be used with a Wick, as that of Brimstone before.

CHAP. II.

Of the Ayr.

Artic. 1. *Of the three Regions of the Ayr.*

PHilosophers make 3. Regions. The Region in the middle is so cold, that it is almost ready to freeze the Kite, which is wont to live there in the dog dayes from Noon till Night, or his limbs should grow stiff by staying there too long.

And in the Alps there is alwaies so much snow, that in Summer the passage is dangerous. They that have crept up to the tops of the Mountaines of *Baldus*, in the Country of *Verona*, feel no lesse cold in *July* and *August*, than in the coldest Winter; *Aldrovand. Omith. l. 1.*

c. 15. Some think the aire to be so thin there, that a man can hardly live. *Augustin. de Genes. ad liter.* l. 13. c. 2. reports from other men, that such as go to the top of *Olympus*, either to sacrifice, or to view the Starrs, carry sponges with them wet in water, to breathe with. But from the History of the flood, and others, we may observe that some Mountaines are so high, that they are above the Clouds, and yet a man may live in that ayre, *Libav. de orig. rer.* l. 6.

There is in the Island *Zelainum*, a very high Mountain, and most pleasant on the top. In *Arabia Fælix* there is an extreame high Mountain, and there is a Town on the top of it. If we observe the force of the aire, it is notable: Philosophers speak much of it. *Cardan* saith that if it be shut up, it corrupts living Creatures, and preserves dead things; but the open Ayre is contrary. But examples will hardly make that good. In the *Navigations* of the *Portugalls*, some Marriners under the Equinoctiall had allmost breathed their last, though it were in the middle of the Sea, and a in a most open ayre. And when we were present, saith *Scaliger, Exercit* 31. some *Italians* of *Lipsia* in the Stoves were like to swound; and you may remember from Histories concerning the death of King *Cocal*. Wheat in *Syria* laid close in Mows corrupts not, but is spoild shut up in Barnes; if the Windows be open, it takes no harme.

Artic. 2. *Of the Infection of the Ayre.*

The Ayre doth not allwaies retain its own qualities, it is infected somtimes with hurtful things. They that go out of the Province of *Peru*, into *Chila* thorow the Mountains meet with a deadly ayr, and before the passengers perceive it, their limbs fall from their bodies, as Apples fall from Trees without any corruptions, *Liburius de Origine rerum*. In the Mount of *Peru Pariacacca*, the ayr being singular, brings them that go up, in despair of their lives. It causeth vomit so violent that the blood follows, it afflicts them most that ascend from the Sea, and not only Man but Beasts are exposed to the danger. It is held to be the highest, and most full of Snow in the World, and in three or four houres a man may passe over it. In the Mountains of *Chilium*, a Boy sustained himself three dayes, lying behind a multitude of Carcases, so that at last he escaped safe from the Venomous blasts. In a Book concerning the proper causes of the Elements, it is written that a wind killed the people in *Hadramot*. The same Authour reports that the same thing hapned in the time of King *Philip* of *Macedo*, that in a certain way between two Mountaines at a set hour, what horseman soever past, he fell down ready to die. The cause was not known. The foot were in the same condition, untill one *Socrates* by setting on high, a steel Looking-Glasse, beheld in both Mountains two Dragons casting their venomous breath one at the other; and whatsoever this hit upon, died, *Liban.* l. *cit.* But the true cause of this mischief was a mineral ayr, stuft with nitrous and other metallick Spirits. Such a one is found in some Caves of Hungary and Sweden, and we know

know that the Common Saltpeter is full of Spirits; it is moved dangerously and forcibly if fire be put to it, and cast into water, it cools them much. But that bodies corrupt not, that we ascribe to cold, but it may be attributed to the Spirits of cold by mixture, such as are in some Thunder-bolts, for the bodies of living Creatures killed by them do not easily corrupt, and they last long, unlesse some more powerfull cause coming, drive it out.

Artic. 3. *Of the Putrefaction of the Ayr.*

The Pestilence comes from putrefaction of the ayr: which in respect of divers constitutions is divers. It is observed that there never was any at *Locris* or *Croto*: *Plin.* l. 2. 99. So in that part of *Ethiopia*, which is by the black Sea. In *Mauritania*, it ruins all. It lasted so long somtimes at *Tholouse*, and in that Province, that it continued seven years. It perseveres so long, and oftimes, amongst the Northern people, and rageth so cruelly, that it depopulates whole Countries; *Scaliger, exercit*, 32. It is observed in the Southern parts, that it goes toward the Sun setting, and scarse ever but in winter, and lasts but three months at most. In the year 1524, it so raged at *Millan*, that new baked bread set into the ayr but one night, was not only musty, but was full of Worms, those that were well, died in 6, or 8, hours; *Cardan de rer. varietat.* l. 8. c. 45. In the year 1500 it destroyed 30000 at London, somtimes 300000 at *Constantinople*; and as many in the Cities of the Vandalls, all the autumne thorow. In *Petrarchs* dayes, it was so strong in *Italy*, that of 1000 Men scarse ten remained. *Alsted in Chronolog.* But that in divers Countries it works so variously on some men and severall Creatures, that proceeds from the force of the active causes, and the disposition of the passive. *Forest.* l. 6. *observ. de Febre.* If the active cause from the uncleanness of the Earth or water be not strong, it only affects those beasts that are disposed for such a venome; but if it be violent, it ceazeth on Mankind; yet so that of its own nature, it would leave neither Countrey, not Cittie, nor Village, nor Town free. This layes hold on men in one place only. But if the active force be from a superiour cause, or be from the ayr, corrupted below, Mankind alone are endangered by it. But if both a superiour and an inferiour cause concur, then may all living Creatures be infected with the *Plague*, yet it must be according to the disposition of their bodies.

Artic. 4. *Of Attraction, cooling, and penetrating of the Ayr.*

NO man almost is ignorant, but that the Ayr serves for the Life of man; for the branches of *arteria venosa*, drink in blood from the whole Lungs, brought to them by the *arteria venosa*, and it is made more pure in them. The Ayr drawn in at the mouth is mingled with the blood, and this mixture is carried to the left ventricle of the heart, to be made spirituous blood; *Ludovi: du Gardin Anatom: c.* 40. But being drawn in heaps it strangles, *Zwinger, Physiol. l.* 2. *c.* 23. For if you compasse a burning Candle in the open ayr, with wine from above, you put it out; because it cannot attract the Ayr prepared on each side, by reason the wine is betwixt, and it cannot from below draw the crude and unprepared Ayr. The desaphoretick force of it will appear in an Egg; when that is new, a pure spirit sweats through its shell, whilest it rosts, like unto dew. What will this do in the body of man? It will make that full of chinks, if it be touched by a small heat: otherwise it fills and penetrates all things. It pierceth thorow a brick, and there it inflates the concocted lime, so that the quantity of it is increased till it break it.

We see that the Ayr entring by the pores of a baked brick, doth swell a stone that was left there for want of diligence, and is turned into Lime; and so puts it up, till the brick breaks, *Zwinger, Phys. l.* 2. c. 25. Farther it is concluded by certain observation, That a wound is easie or hard to cure by reason of the Ayr. In Fenny grounds wounds of the head are soon cured, but Ulcers of the Legs are long: Hence it is, that wounds of the head are light at *Bonnonia* and *Paris*, but wounds of the Legs are deadly at *Avignon* and *Rome*. There the Ayr is of a cold constitution, and is an enemy to the brain: here it is more hot, whereby the humours being melted, run more downwards, *Paræus, l.* 10. *Chirurg:* c.8. It may be cooled 9 wayes, by frequent ventilating of it with a fan that fresh ayr may come; if Snow and water be set about the bed; if the walls be compassed about with Willow leaves, or with linnen cloaths dipt in vinegar and Rose-water, if the floor be sprinkled, and fountains made to run in the chamber; if beds, saith *Avicenna*, be made over a pit of water, If beds be made of Camels hair, or of linnen, laying the skin under them: If the Bed be strewed with herbs; and lastly, if fragrant fruits be placed near the bed; *Heurn: lib*, 2. *Medic. c.* 18.

CHAP.

CHAP. III.

Of the Water.

Artic. 1. *Of the quantity and colour of waters.*

SO much for Ayr: Now followes the Element of Water. And first we shall consider the quantity, and the colour of it. In the Country of the great *Cham*, near the City *Simqui*, there is the River *Quian*, which is 10 miles broad; and waters 200 Cities, and it is so long, that it cannot be sailed in 100 dayes. *Polus* writes, That he told in the Haven of it 50000 Ships. Also in *Moscovia* the *Duina* is so great by the melting of the Snow, that it cannot be passed over in a whole day with a well sayling Ship, it is at least 50 miles broad; *Jovius*, a Lake of *Genebar*, the *Portingals* call it January; *Thuan histor. l.* 16. is so large under Capricorn, that men write, who have sailed thither, That all the Ships in the World may well harbour there. As for Colours, they are different in many waters. *Danubius* is white as milk and water, which divides *Noricum*, and *windelicia* from *Germany*, *Agricol. de Natur. effluent.* The Waters of the *Mayn*, especially where it hath passed the *Francks*, and is fallen into the *Rheyn*, are yellowish. The Fountain *Telephus* is muddy near *Pathra*, and mingled with blood. In *Ethiopia* there are red Waters, that make one mad that drinks them. At *Neusola* in the Mountain *Carpathus*, Waters running out of an old passage under ground, are green. At *Ilza*, that which comes forth of the Mountains of *Bohemia*, and runs into *Danubius*, is black.

Artic. 2. *Of the Taste of Waters.*

THere is no lesse variety of Waters in their tastes. Some are sweet, some taste like wine: you shall find every where, salt, Allom tasted, sharp bitter waters every where. The Waters of *Elew*, *Chocops*, Rivers, are sweet: The Kings of *Persia* drank of them, and transported them to far Countries. The water of *Cardia* in a field called *Albus*, is sweeter then warm milk. *Pausanias.* So is *Venosa* near *Paphlagonia*; whence so many strangers come thither to drink of it. In the bosome of the *Adriatick* Sea, where it turns to *Aquileia*; there are 7. Fountains, and all of them, except one, are salt, *Polyb.* in *Hist.* At *Malta* there is one, that the waters running above are very sweet, but the lower waters are brackish, *Aristobul: Cassand.* The small River *Exampeus* is so bitter, that it taints the great River *Hypanis* in *Pontus*. In the Lake *Ascanium*, and some Fountains about *Chalcis*, the upper waters are sweet, and the lower taste of nitre; *Plin. in Hist.* The Fountains are sowr about *Culma*; and because the water, though it be cold, boyls, they seem to be mad, *Agricol. lib. cit.* In the same place there is a Mineral water, which they call Furious, because it

 boyls

boyls and roars like thunder. In *Cepusium* at *Smolaicium*, it not onely eats iron, but turns it into brasse. But the water about *Tempe* in *Thessaly*, of the River *Styx*, can be contained in no vessel of silver, brasse, iron, but it eats through them, nothing but a hoof can hold it.

Artic. 3. *Of the Smell of Water: and of the first and second qualities.*

THe hot Baths that are distant from *Rhegium*, the Town of *Lepidus Æmilius* 26 miles, smell of so gallant Bitumen, that they seem to be mingled with Camphir. There was a Pit in *Peloponnesus* near the Temple of *Diana*, whose water mingled with Bitumen smelt as pleasant as the unguent *Cyzicenum*. In *Hildesham* there are two Fountains; the one flowes out of Marble that smells like stinck of rotten Eggs, and taste sweet: but if any man drinks of it fasting, he will belch, and smell like the Marble pownded: The other is from Brimstone, and smells like Gun-Powder: The water of this brook, covers with mud the stones that lie in the channel of it, scrape it off and dry it, and it is Brimstone, *Agric. lib. cit.* *Arethusa*, a Fountain of *Sicily*, is said to smoke at a certain time. At *Visebad*, there is a Spring in the Road-way, the water whereof is so hot, that you may not onely boyl Eggs in it, but scall'd chicken, and hoggs; for it will fetch off feathers or hair, if you dip them in, or pour it upon them.

Ptolomy Comment. lib. 7. affirms, That at *Corinth* there is a Fountain of water, which is colder than Snow. Near the Sea-Banks at *Cuba*, there is a River so continual, that you may sayl in it; yet it is so hot, that you cannot touch it with your hands, *Martyr Sum. Ind.* Near the Province *Tapala* it runneth so hot, that one cannot passe over it, *Ramus. tom. 3.* At *Segesta* in *Sicily*, *Halbesus* suddenly growes hot in the middle of the River. *Pontus*, is a River that lyes between the Country of the *Medes* and the *Scythians*, wherein hot burning stones are rolled, yet the water it self is cold. These, if you move them up and down, will presently cool, and being sprinkled with water, they shine the more bright. Lastly, near the City *Ethama*, there is a River that is hot, but it is good to cleanse the Lepers, and such as are ulcerated, *Leonius*. Also some waters swim above others. *Arsanias* swims above *Tigris* that is near unto it, so often as they both swell and overflow their banks: *Peneres* receiveth the River *Eurôta*, yet it admits it not, but carrieth it a top of it like oyl for a short space, and then forsakes it, *Plin. hist. Natural.*

Artic. 4. *Of the Diverse running of the Water.*

IT is said of *Pyramus*, a River of *Cappadocia*, which ariseth from Fountains that break forth in the very plain ground, that it presently hides it self in a deep Cave, and runs many miles under ground, and afterwards riseth a Navigable River, with so great violence, that if any man put a sphear into the hole of the Earth where it breaks forth again,

again, the force of it will cast out the sphear; *Strabo* l. 12. Not far from *Pompeiopolis* in the Town *Coricos*, in the bottom of a Den of wonderfull depth, a mighty River riseth with incredible force; and when it hath ran with a great violence a short way, it sinks into the Earth again, *Mela. l. 1. c. 6.* The Water *Marsia* after it hath run along tract, from the utmost Mountains of the *Peligni*, passing through *Marsius* and the Lake *Fucinus*, it disemboggs into a Cave, then it opens it self again in *Tiburtina*, and is brought 9 miles with Arches built up, into *Rome*, *Plin. l. 31. c. 3.* The *Sabbaticall* River was wont to be empty every seventh day, and was dry; but all the six dayes it was full of water. But that ceased when the sacrifice ceased, *Joseph. l. 7. c. 24.* There is a certain River *Boccatius* speaks of, every ten years, it makes a mighty noyse, by the stones striking together; and this is suddenly in a moment, and the stones ran downwards for 3. dayes, and 3 or 4 times a day, though it be fair weather; and after three dayes all is quiet. *Strabo* writes of the Rivers of *Hircania*, *l. 11. There are in the Sea high shores that are prominent, and are cut forth of Rocks; but when the Rivers run out of the Rocks into the Sea with great violence, they passe over a great space as the fall betwixt the Sea and the Rocks, that Armies may march under the fall of the waters as under Arches, and receive no hurt.* *Trochlotes* in North *Norway* makes such a noyse when it runs, that it is heard 20 miles, *Olaus*, *l. 2. c. 28.* *Baca* in *Livonia* runs forth of the Rocks with such a fall, that it makes men deaf, *Ortel. in Livon.* *Tanais*, by a very long passage from *Scythia*, falling into the Lake *Meotis*, it makes it so long and broad, that those that are ignorant of it, take it for a great Mountain, *Boccatius*. In *Solomon's* Temple there ran a Spring, great in Summer, small in Winter; *Euseb. præparat. Evangel. l. 9. c. 4.* If you ask the cause, it is taken from the Time. All things are wet in Winter, then are the Channels full; and for want of evaporation the waters are kept in. But in Summer all things are dry, and the Suns heat penetrates. Hence it is that they are congregated in their Fountains, and run out by the Ayr inforcing them, *Meander* is so full of windings and turnings, that it is often thought to run back again, &c. He that seeks more concerning *Nilus* and other Waters, let him read Geographerrs.

Artic. 5. *Of the change of quantity and of qualities, in Waters.*

THis great variety in Waters that I have set down, is a token of the wisdome and power of God: and it is no lesse wonder, that the same waters should be so diversly changed. It is certain that they are changed. A Fountain in the Island *Tenedos* alwayes from 3. at night till 6. after the Summer Solstice, overflowes. There is another in *Bodon*, that hath its Name from *Jupiter*, it fails always at Noon-day; And the River *Po* in Summer, as if it took its rest, growes dry, saith *Pliny*. In *Italy*, *Tophanus* a Fountain of *Apagnania* is dry when the Lake *Fucinus* is frozen; at other times of the year it runs with great quantity of water, *Agricola l. cit. passim.* The Waters of the Lake of *Babylon*

lylon are red in Summer. *Boristhenes* at some times of the year seems to be died with Verdigrease. The water of the Fountain of the *Tungri* is boyling hot with fire subterraneal, and is red. The Waters of the River *Caria* by *Neptun*'s Temple were sweet, and are now salt. But in *Thrace* when *Georgius Despota* ruled, a sweet Fountain grew to be bitter intolerably, and whole rivers were changed at *Citheron* in *Beotia*, as *Theophrastus* writes. Men report, that of the Mineral Waters which run by the *Pangæus*, a Mountain of *Thrace*, an *Athenian* cotyle weighs in Summer 64 grains, and in Winter 96. In the Province of *Cyrene*, the Fountain of the Sun is hot at midnight, afterwards it cooles by degrees; and at Sun-rising it is cold: and the higher the the Sun riseth, the colder it is; so that it is frozen at mid day: then again by degrees it growes warm, it is hot at Sun-set; and the more the Sun proceeds, the hotter it becomes. The same Fountain every day as it growes cold at mid-day, so it is sweet; as it growes hot at midnight, so it growes bitter.

Artic. 6. *Of some other things admirable in waters.*

THey were wonders that are passed, but greater follow. In those, it is easy to assign a cause, mixture or some such like, if you rightly consider it; but here it is difficult, for though you may in some, yet commonly we must fly to hidden qualities. I will briefly rehearse them. Some drops of a Fountain of the *Goths* powred upon the Earth, cease to move, and are thickned by the ayr. The waters of *Gepusia* in Pitchers turn into a Stone; those of *Rhætia* make people foolish; they pull out the teeth in two years, and dissolve the ligaments of the sinews, which *Pliny* writes to be in *Germany* by the Sea-side. Those of *Istandia* change things that are hollow into stones. *Tybur* covers Wood with Stone covers. *Zamenses* in *Africa* makes clear voyces. *Soraites* when the Sun riseth, runs over, as though it boyled; birds that then drink of it die. He growes temperate, who drinks of the Lake *Clitorius*; and he forgets who drinks of a well nere the River *Orchomenus*, sacred to the God *Trophonius*; *Philarch.* He proves dull of wit that drinks of a Fountain in the Island *Cea*. *Agricola de reb. à terra effluent.* gives a cause for it, as for the former, by reason of the bitumen. *For*, saith he, *the seeds of wild Parsnips wrapt in a linnen clout, and put into Wine, as also the powder of the flowers of* Hermodactylus, *which the Turks use, being drunk with it, are the cause that it will make a man sooner and more drunk; so some kind of Bitumen mixt with water, is wont to make men drunk.*

The horses, drinking *Sebaris* are troubled with sneesing, whatsoever is sprinkled with it, is couloured black. *Clitumnus* of *Umbria* drank of, makes white Oxen; and *Cesiphus* of *Beotia* white sheep: but a River in *Cappadocia* makes the hair whiter, softer, and longer. In *Pontus*, *Astaces* waters the fields, in which Mares are fed, that feed the whole Countrey with black milk. The waters in *Gadaris* make men bald, and deprive Cattle; of hair, hooffs and horns. *Cicero* writes that in the Marshes of *Reate*, the hoofs of beasts are hardned. The hot baths at

at the Fort of *New-house*, colour the Silver Rings of such as wash in them with a Golden colour, and make Gold Rings more beautifull. *Aniger* that runs out of *Lapithum* a Mountain of *Arcadia* will nourish no fish in it, till it receive *Acidan*, and those that go then out of it into *Aniger* are not edible, but they in *Acidan* are, *Pausanias*. *Agrigentinum* a Lake of *Sicily* will beare those things that do not swim in the waters. In *Æthiopia* there is one so thin that it will not carry up leaves that fall from the next Trees. In the lake *Asphaltites* a man bound hand and foot cannot sink. The cause is held to be the great quantity of Salt. *Hieronymus Florentinus*, saw a Bankrupt bound and cast headlong from the Tower into it, and it bore him up all the night. *Posidonius* observed that bricks in *Spain*, made of Earth, with which their Silver plate is rub'd, did swim in the waters. *Cleon and Goon* were two Fountains in *Phrygia*; either of their waters made men cry. There were two in the fortunate Island; they that tasted of one laught till they died, the other was the remedy for them.

Anauros of *Thessaly* and *Boristhenes*, send out no vapour, nor exhalation: many refer the cause of it to its mixture, others seek it otherwhere. *Agricola. l. 2. de effl. ex terr. c. 17.* saith, *In what part of the Rivers, the Channels in the Fords have no veins and fibres, by that they can breath forth no exhalations.* In the snows of Mount *Caucasus*, hollow Clods freez, and contain good water in a membrane: there are Beasts there, that drink this water, which is very good, and runs forth when the membranes are broken. *Strab. in Geograph.* *Nilus* makes women so fruitfull that they will have 4, and 6, at one venter; *Pliny in Histor.* There is a Well of water, that makes the inhabitants of the *Alps* to have swollen throats. *Lang. l. 5. Epist. 43.* But in field *Rupert* neer to *Argentina*, there is a water said to be, that makes the drinkers of it troubled with *Bronchocele*, they seem to be infected with *quicksilver*: for this is an enemy to the brain and nerves, for it not only sends back flegme to the glandulous parts of the head and neck, but that which is heaped up in the head, it throws down upon the parts under it, *Sebizius de acidul. s. 1. dist. 6. Corol. 1. thes. 12.* *Diana*, a River of *Sicily* that runs to *Camerina*, unlesse a chast woman draw its water, it will not mingle with Wine; *Solinus, C. 10.* Styx in *Arcadia* drank of, kills presently, it penetrates and breaks all; yet it may be contained in the horns of one kind of Asse, *Seneca. l. 3. natur. c. 25.* Two Rivers runs into *Niger*, a River in *Africa*, one is reddish, the other whitish, *Barrens. Histor. dec. 1. l. 3. c. 8.* If any man drink of both, he will be forced to Vomit both up, but if any man drink but of one, he shall Vomit leasurely, but when they are both run into *Niger*, and a man drink them mingled, he shall have no desire to Vomit. *Narvia* is a River of *Lithuania*; so soon as Serpents tast of the water, they give a hiss, and get away. *Cromer. descript. Polon. l. 1.* A Fountain of *Sardinia*, in the *Mediterranean*, keeps the length and shortnesse of dayes, and runs accordingly. In the Island of *Ferrum*, one of the *Canaries*, there is no water, the Ayr is fiery, the ground dry, and man and beast are sad for want of water. But there is

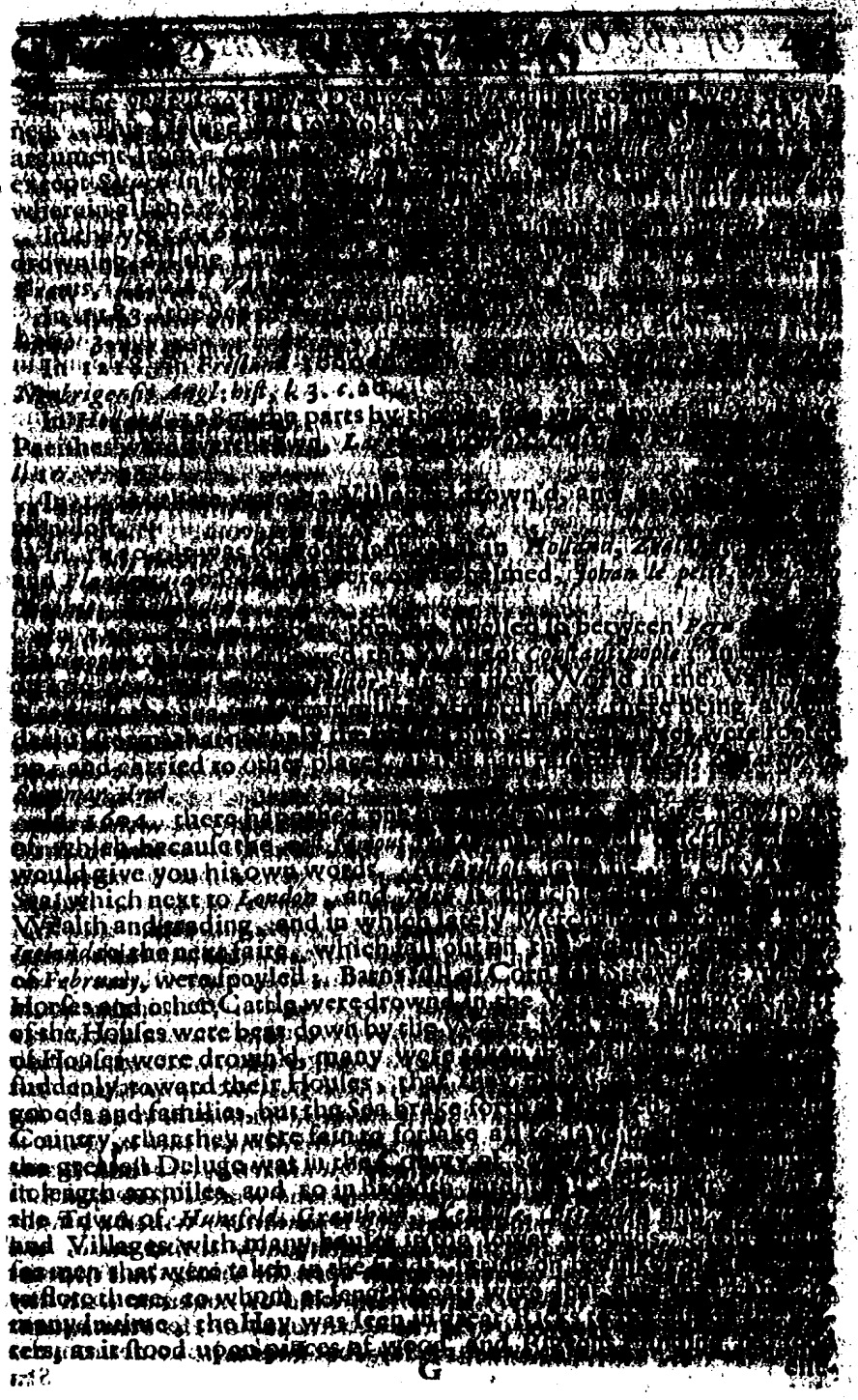
is a Tree, the kind is unknown, the leaves are long, narrow, and allways green. A Clowd allwaies surrounds it, whereby the leaves are so moystned, that most pure liquour runs continually from it, which the inhabitants fetch, setting vessells round the Tree, to take it in. *Bertius in descript. Canariar.* Sea-waters if they be lukewarm, they portend tempests before two days be over, and violent Winds. *Lemnius de occult. l. 2. c. 49.* In *England*, nere *New-Castle* there is a lake called Myrtous, part whereof is frozen in Summer. *Thuan. in Histor.* But I have done with these. Authours have more, if any man desire it, especially *Claudius Vendilinus*, whom I name for honour sake, if he seek for the wonders of *Nilus*.

Artic. 7. *Of some Floods or Waters; and of the Universall Deluge.*

THe Floods were signs of Gods anger, and so much the more as that was greater, and mens sins more grievous. The greatest was that we call the generall Deluge, which began about the end of the year of the World, 1656. All the bars of the Channels were broken, and for 40 dayes a vaste quantity of water was poured down. Also the Fountains of the great Deep were cut asunder; so that the Waters increased continually for 150 dayes, and passed above the highest Mountains 15 Cubits. At length they abated by degrees; for after 70 dayes the tops began to appear. The Inhabitants of the New World say, they had it from their Ancestours. Those of *Peru* say, that all those Lands lay under waters, and that men were drowned, except a few, who got into woodden Vessels like Ships; and having provision sufficient, they continued there, till the waters were gone: Which they knew by their dogs which they sent forth of doors; and when the dogs came in wet, they knew they were put to swim; but when they returned dry, that the waters were gone, *August. Carat.* But they of *Mexico* say, that five Suns did then shine, and that the first of them perished in the waters, and men with it, and whatsoever was in the earth.

These things they have described in Pictures and Characters from their Ancestors; giving credit to *Plato*'s Flood, which was said to have hapned in the Island *Atlantis*. *Lupus Gomara.* But *Lydiat* ascribes the cause of that universal Deluge to a subterraneal fire in a hotter degree, increasing the magnitude by rarefaction, so long as it could not get out of its hollow places. *Genesis* seems to demonstrate it. For the Fountains of the great Deep are said to be broken open; and that a wind was sent forth after 40 dayes, and the waters were quieted. We must understand a wind from a dry Exhalation, which a subterraneous fire much increased, had most abundantly raised out of the deep of the Sea, which was then thrust forth of them, and did increase the motion of the ayr that it laid hold of, together with the revolution of the Heavens, and the vehemency of the Firmament. But there were other miraculous Deluges besides this.

In



elsewhere, fed amongst the hogs upon cars of Corn, sitting upon the backs that were carried up and down. Also the Conies driven out of their holes by the waters, fled upon sheeps backs, and at last were drowned with the Sheep. It is out of beleef what men have written of that Tragicall or rather Poetical Tempest. It was as fierce near *Marsilia* in *Narbona*, where the Towns-men were taken suddenly, forse out of their holes, making a wonderfull and confused lamentation, and leaving their goods, took their Children, Fathers, Mothers, and Brothers on the other, which came next to hand, every one what was dearest to them, as in the destruction of *Troy*, and carried with them on their shoulders. They hastily ran into the Mountain *Nibilu* that was a mile and half from thence, escaped in a terrible fear, whither their flocks and herds retired. Others that dwelt in the Town by dead or infirmity, which the day following they saw out of their Chamber Windowes the City drown'd, they did too late with their hands lifted up, call upon God for help. When as they could not get to that Mountain, that was about a mile in compass, as to the top a high Rock, grown about with briars and bushes, they were all brought to the utmost desperation, there being no fodder for the Cattell, and all perishing for hunger. Those that dwelt far from them (for the water was entred 16 miles into the Land) were moved with compassion, and sent Boats to the top of the hill, loaded with bread and water, and wrought themselves a passage through thorns and briars to come to their miserable people, and not only feed them for the present, but helped them for the future. So much *Thuan*, and we confirm it.

CHAP. IV.

Of the Original of Fountains.

WHat I write before, shews that there are innumerable Fountains, and those wonderfull in this Inferiour Globe. It is worth the while to enquire whence they have their Originall. Some would have it, that the springs of waters come from rain. *Seneca* were of that, they came from the earth changed into water. *Aristotle* would have they spring from Vapours of the Ayr, shut up in the Earth and thickned by the cold. This is scarce certain to believe. As for the first, he runs sinks above 10 foot into the Earth, and when it is parched with the Ayr, if any more fall, it shuts it forth. *Seneca*. But in the deepest places, springs of water rise a mans hight deep, and plentifull veins of water are found there. As for the second, the water can more easily be changed into the earth, and density is the cradle of it. And to touch upon the third, the Ayr can not be corrupted so suddenly, as the waters flow, nor can so much vapour be afforded. For the Ayr must be rent asunder, for which there is no place. Wherefore we must say, that Fountains come from the Sea

Sea by passages under the Earth. The Sea alone is sufficient to supply all Springs; and when we see that it no wayes increaseth by the Rivers that run into it, it is apparent that they run to their Fountains by secret channels. But the question is, of the manner how they ascend. *Socrates* ascribes it to the Tossing of them; *Pliny* to the wind, *l.* 21. *c.* 65. *Bodin*, *l.* 2. *Theatr.* to the weight of the Earth driving forth the water. *Scaliger*, to the Bulk of the Sea; others, to vapours redoubled into themselves. It is a hard matter to define all things, nor is it our purpose.

But because *Thom: Lydiat*, an *English* Man, hath written most acutely of this Subject, we will set down his opinion here, contracted into a few Propositions:

I. *The Rolling of the water is not the cause of its ascending to the superficies of the Earth.* For there is no cause for its tossing, and wherefore then should it not at length stand levell?

II. *To be driven with the wind, is not the cause.* 1. For it seems not to be raised in the Sea by a fixed Law of Nature, but by way of Tempest. 2. The Channels are winding, and should carry it rather to the sides than to the superficies. 3. If a contrary wind cannot do so much in any water, what then can the wind do here? Also if there were any receptacles for the waters forced upwards, Miners, those that dig in mines, would have found them out, as *Vallesius* saith.

III. *The weight of the Earth squeesing out the water is not the Cause.* For the Earth doth not lye upon the waters, but contrarily where the Conduits are not full, the lower part is not empty, but the upper part.

IV. *Nor the Bulk of the Sea.* *Scaliger* thinks that the Waters being pressed in the channels by the Sea lying upon them, do seek to get forth. His Example is of a stone in a vessel. But two things are here assumed. 1. That the gravity is every where, the same as in the weight of a stone. 2. That a great part of the Sea water is out of its place.

V. *Nor yet vapours redoubled into themselves, and so drawing; nor the spungy Nature of the Earth, nor the veins of the Earth, whereby the moysture of the water may be drawn forth.* For 1. attracting forces would be more fit for Champion ground, than for Mountains. 2. If they should attract, it were for that purpose that they might have the fruition of it, but from whence are there such Rivers? 3 The veins of waters are no where found so full, as that reason requireth, whether it be for blood in living creatures, or for squirts.

VI. *The water is raised out of the Caves of the Earth, to the Tops of Mountains, as the Sea is raised above the middle Region of the Ayr.*

VII. *But this Elevation is made by the force of heat resolving the water into vapours.* *Aristotle* himself intimates, that heat is required; but that water may be made of a vapour, there needs no cold, but a more remisse heat.

VIII. *The heat of the Earth proceeds not from the heat of the Sun, namely of the Earth in its Intralls.* For first, it can penetrate but two yards deep, and therefore the *Troglodites* make their Caves no deeper. 2. In the

the hottest Summer a woodden post, that is but one or two Inches thick is not penetrated. 3. The entralls of the Earth about 8 or 10 yards deep are found colder in Summer then in Winter.

IX. *The Antiperistasis of the cold Ayr in the superficies of the Earth, is nothing to the purpose.* 1. It is more weak than the cold of the firm Earth. 2. What ever of the Suns heat is bred within, passeth out by the pores and vanisheth. 3. It perisheth being besieged by both colds to which it bears no proportion.

X. *The heat that is in the bowells of the Earth, is from a double cause.* For in the parts nearest the superficies it proceeds from the Sun beams, but in the bowels of the Earth from other causes. That passeth out by the pores of the Earth in Summer, being opened by the Sun, and therefore it vanisheth when as being removed from its original it is weaker; but in winter it is bound in by the cold. XI. *The heat in the bowels of the Earth, is known by the heat of the waters; but these are neither hot by the Sun nor from brimstone, or quicklime in the conduits, but only from a subterraneal fire.*

Not from the Sun. For. 1. That cannot penetrate so far. 2. If it were from thence it would be most in Summer. Not from brimstone or quick lime, for brimstone heats not unlesse it be actually heated, and quick-lime, only then when it is resolved by Water. Also the vast quantity of it would be resolved in a short time, and would make a change in the Channels. But it may be understood some ways, how it may be heated by a subterraneal fire. 1. As it is actu all, and so the Channels being solid stone cannot derive it. 2. As it is more remote, but sends forth Vapours by pipes, as in Baths, so also not; for Vapours cannot have so great force as to make it boil. 3. That the Water may run amongst the burning fire, as in bituminous Channels; But here the question may be; why it doth not cast out the *Bitumen*, as in *Samosata* a City of *Comagenes*, *Pliny* saith, *l.* 2. *c.* 104. and 107, that a certain lake cast forth flaming mud, and fire came out at the Waters of *Scantium*. 4. *The fourth way is the truth. Art doth some ways imitate Nature, but in Stills the water by the force of heat, is resolved into Vapours, and the Vapours fly upwards, to the heads, where they stick, and being removed from the violent heat, they return to water again, so also in the bowells of the Earth.* XII. *But Fountains that boyl, seem not to be of those waters that run, but that staud still*: Namely Wells that have formerly been opened by the quakings of the Earth, which it is no wonder that they are joyned to the Sea. In a small Island against the River *Timeum*, *Pliny l.* 2. *c.* 103. writes that there is a hot spring, that ebs and flows with the Sea. In the Gades it is contrary, *Pliny*, *l.* 2. *c.* 97. But if any of these hot springs do run, we must observe of them, that their Channels are so scituated, that when the Sea flowes, it comes unto them, or if it were come into them before, it powreth forth the more. And so the heat of the fire will be either proportionable, and the exhalation greater, or not, and so lesse. XIII. *But what Agricola writes of bituminous waters, and that yeld a smell, must be ascribed to their nearnesse, but it vanisheth at a farther distance.* The

The same is observed in artificiall distilled waters, that in time the burntnes of them will vanish away. XIV. *But because this fire by the shaking of the Earth can do much in the superficies, it can then do more in the place it is.*

It can therefore stop up old Channels, open new ones, in divers caves of the Earth, without sending forth of the matter combustible, or propagation of fire, or conflict of Vapours, it can rayse new fires; from whence new Rivers may be produced, yet somtimes also it useth to be extinguished, or sunk so deep, that it cannot send its force to the superficies. This is the opinion of Lydiat, which we have set down more amply; that being better known, it might be more exactly weighed.

CHAP. V.

Of hot Baths.

THe heat of hot Baths is diversly spoken of by Authours. *Aristotle* thought it proceeded from Thunder, which is false, for the force of Thunder is pestilentiall, any man may know it, that beholds Wine corrupt by Thunder. It makes men mad or dead, but these are healthfull, as experience daily shews. Also there are many places that were never touched with Thunder, for that never descends above five foot. *Sennert. Scient. natural. l.* 4. *c.* 10. thinks it comes from two waters that are cold to be felt, but grow hot in their meeting, from repugnancy of the Spirits, as we see in oyle of *Tartar*, and Spirit of Vitrial, and in Aquafortis and *Tartar*, and of the butter of *Antimony* and Spirit of *Nitre*, all which, though they are cold to the touch, yet if you mingle them, they grow hot, and so that if you suddenly powre oyle of *Tartar* into Aquafortis, wherein Iron is dissolved, it will not only boyle, but the mixture will flame, which also happeneth if you pour fast the spirit of *Nitre* into the butter of *Antimony*. Some impute it to the native heat of the earth, or to a certain hot spirit; so that these natural spirits of exhalations heating not violently but naturally, in some places the secret channels of the Earth grow hot: that this heat is communicated to the Walls of those concavities, by reason whereof a sufficient and continuall heat may be communicated to the Baths, even as in an Oven heated, when all the flame is gone, the bread is sufficiently baked, *Horstius de natur. Thermar.* Others ascribe it to subterraneall fire; but whether it be so, may be known by what proceeded, *Bartholin: de aquis.*

Farther it may be shewed by an Example: Mingle salt-water with Clay, make of this clay or mud a ball, and hollow it within, then stop the orifice with the clay, and put in a narrow pipe into it, and put this ball to the fire; the pipe being from the fire, when the ball

ball waxeth hot, out of the ball by the pipe hot water will run, *Sennert. l.4. scient. natural. c.* 10. Baths have a taste by the mixture of Earths: and so have things in the Earth.

Hippocrates l. de natur. human. saith, That there is in the Earth, sweet, sowr, and bitter; and in the bowels of it there are divers faculties, and many humours, *l.* 4. *de Morbis.* Every thing drawes its nourishment from the Earth in which it is. Hence in *Ionia* and *Peloponnesus*, though the heat of the Sun be very sufficient, yet *Silphium* growes not, though it be sowed, namely, for want of such a humour as might nourish it. Yet there are in that earth juices, not onely for the vaporous, but also for the moyst and solid substance. Juices condensed are dissolved by waters, the moyst are mingled, Earths are dissolved, and scrapings of mettals are found. The goodnesse of them differs sometimes; because those that in Summer are beray'd with the Suns heat, and attenuated, are the best: In Autumn they are lesse beat upon by its beams, because he is nearer to them: so in the spring. For the Earth is opened, the waters are purified, the healthfull light of the Sun approaches: but in the Winter they are worst: for they are heavier, thicker, and more defiled with earthly exhalations. That they suffer changes, we may learn by divers examples.

Fallop. de Therm. c. 11. *Savanarola* saith, That the Bath waters in the Country of *Pisa* cause great diseases in those that drink them, and the Inhabitants are warn'd of it. For in March, April, and May, when they see the waters look yellow, and to be troubled, they foresee they are dangerous. *Aleardus of Veroneus*, a Physitian, who writ of the *Calverian* Baths, saith, That the water of *Apponus* is sometimes deadly, by the example of one *Galeatius* a Noble man, who with his Son in Law drank of it, and dyed.

The sharp waters of *Alsatia* are sometimes so sharp, that they cause the dysentery; and sometimes they are feeble, and are deprived of their wonted vigour, *Sebizius de acidulis, diss.* 50. *s.* 1. The causes are divers; amongst the ordinary, a rainy, cloudy, dark, Southern constitution of the Ayr, too violent flowing of the Sea, inundations, Earthquakes.

It is wonderfull that is written concerning some hot Baths in *Germany*, that they grew dry when there was a tax set upon them, *Camerar. horis subcis. cent.* 2. *c.* 69. Something like this, fell out in shellfish at the Sluce; for when a kind of tribute was laid upon the collecting of them, they were no more found there; they returned, when the Tax was taken off, *Jacob Mayer. in Annal. Flandriæ.*

CHAP.

[illegible]

Article 1. *Of the Division and Name of Ocean.*

THe Sea is the great [illegible] waters, which [illegible] all the Earth [illegible] as a girdle, or is bound up into its [illegible] into the parts [illegible] *Fabl. Sanson.* [illegible] thought [illegible] made [illegible] and that our Sea was [illegible] portion of [illegible] *Thus also was the opinion of the Ancients*, that [illegible] were both round, but they [illegible] divided by a double Ocean [illegible] *Pliny l.* 2. *c.* 67. We have but one Ocean [illegible] and is divided into [illegible] World. From the East it is called the Eastern Sea, from the [illegible] the West, from the South the Southern, from the North [illegible] Northern. Afterwards [illegible] Country it derives [illegible] *Hellespont*, *Carpathius*, *Cretensis*, *Adriatic*, *Ionius*, *Indian*, *Gallic*, *Persian*, *Aspen*, (that is about the Island *Mallagascar*) *Ethiopick*, *Sarmatian*, &c. There are 3 additional [illegible] bounded by the Atlantick, *Sedanus*, or the [illegible] Sea, [illegible] *bian*, *Hyrcanus* or *Caspian*, and the [illegible] Sea, which [illegible] *Scythicus*, and arises from the *Atlantick* Sea, which [illegible] furing breaks forth by the narrow [illegible] ing on both sides; (from the Ancients [illegible] Nelius) as it passeth by the shores of divers Countries [illegible] graphers chiefly *Cluverius* [illegible]

Article 2. [illegible]

HIstories shew, That in our and our Grandfathers [illegible] Whole World much been spoken of the Deeds [illegible] *Drake*, *Thomas Cavendish*, *Fitzherbert*, [illegible] others, are known. It may be well questioned, [illegible] stores did the like. It is hard to say, when first men began to sail [illegible] the *Atlantick* Sea, which is between *Europe*, *Africa*, and *America*. It shall be cleared in our following discourse, that *America* was known to the *Egyptians* and *Grecians*, and that the *Carthaginians* sailed thither. [illegible] *Pliny l.* 2. *c.* 67. writes of the sailing about it, in the middle age of the World. That all the West was sailed over from the [illegible]

and

and *Hercules* Pillars, about *Spain* and *France*, in his dayes. But the North Sea for the greatest part was passed over by the happy successe of the famous *Augustus*.

We find in *Velleius*, that *Germany* was surrounded by sailing so far as the Promontory of the *Cimbri*, and from thence the vast Ocean was discovered, or known by relation as far as *Scythia*, and the parts that were frozen, by the command of *Tiberius*. The same *Pliny* tells us, that *Alexander* the Great extended his Victories over the greatest part of the East and Southern Seas, unto the *Arabian* shores; whereby afterwards when *C. Cæsar* the Son of *Augustus* managed the businesse, the ensigns of ships were known to belong to the *Spaniards* that had suffered shipwrack there. But when *Carthage* flourished, *Hanno* sailed from the *Gades* to the furthermost parts of *Arabia*, and writing that Voyage, and *Hamilco* at the same time was sent to discover the outward parts of *Europe*. Moreover, *Cornelius Nepos*, is the Author of it, in *Pliny*, that one *Eudoxus* in his time, when he fled from *Lathyrus* King of *Ægypt*, came from the *Arabian* Coasts as far as *Gades*; and *Cælius Antipater* long before him affirms the same, that he saw him, who sailed out of *Spain* into *Æthiopia* for Merchandize. The same Author writes, that the King of *Sweden* gave freely to *Quintus Metellus Celer*, Pro Consul of *France*, those *Indians*, who sailed out of *India* for Traffique, and were by Tempests carried into *Germany*. That Voyage hath been attempted of late, but with extream danger of life, men being hindred continually by Ice, and extream darknesse. If these things be so, then was all our World sailed about.

It is further questioned whether there be any passage, through the North Sea, to the Kingdome of *Sina*, and to the *Moluccos*. *Jovius* reports that he heard it of *Demetrius Moschus*, that *Duidna* with many Rivers entring into it, ran into the North a wonderfull way; and that the Sea was there open, so that stearing the course toward the right hand shore, (unlesse the land be betwixt) men might saile to *Cathay*. Those of *Cathay* belong to the furthest parts of the East, and the parallel of *Thracia*, and are known to the Portingalls in *India*, when they, to buy spices, sayled to the Golden *Chersonesus*, through the Countries of *Sina* and *Molucco*, and brought with them garments of *Sabell* skins. *Petrus Bertius*, a man that deserved well for his learning, but ill for divinity, reports, *in descrip. nov. Zembliæ*, that he saw a Table described by the Russes, wherein the shores of the *Russes*, *Samogeians*, and *Tingeses*, with the North Sea, were unto them, and some Islands were rudely set forth. In that the *Duina* River was farthest West, but those Rivers followed towards the East, and in the first place, *Peisa*, *Petchora*, *Obii*, *Jeneseia*, and *Peisida*. Therefore the passage must be open from the River *Obii*, to *Peisida*. The Histories of the *Russes* report, that when the *Moscovites* and the *Tingeses* were curious to search out Countries farther toward the East, they sent out discoveries over Land, which passed beyond the River *Obii* and *Jeneseia* so far as *Peisida* our foot; and there they fell amongst people, that in their habit, manners, and speech were

were farr different from them. There they heard the sound of Bells from the East, the noyse of Men, the neighing of Horses; they saw sayls foure square, such as the *Indians* use. They saw a place, in *April* and *May*, abounding with all sorts of flowers. The Duke of *Moscovia* heard of this afterwards, and a fall was made, but the *Duke* died in the interim, and this noble design was hindred. It is supposed that those places are here the *Indies*, and therefore if the River *Peisida* can be overpassed, the passage to *Cathay* and *Sina* were not difficult.

Artic. 3. *Of the depth, Heights and Colours of the Seas.*

Concerning the depth of the Sea, there are many opinions. *Strabo* saith it is deeper than the Earth is high. *Plin. l. 6. c. 22.* and *Solinus*, c. 54. that in many places no bottom can be found. But there speak of a certain Sea in the *East Indies*, and they speak according to their days, when navigation was not so much known. *Pisidanus* reports that *Julius Cæsar*, found by his Searches 15 furlongs; others give 30. But the *English*, *Portugalls*, *Almains*, who now a days use most Navigation reckon 2 *Italian* miles and a half. *Olaus Magnus*, (l. 2. *Histor. Septent. c.* 18.) writes that at the shores of *Norway*, it is so deep, that no rope can try it, but that is by reason of the hollow shores, and full of cracks every where. And though there be such a wonderfull force of waters in the Sea, yet certain it is that it is sometimes frozen. *Strabo. l. c. Geograph.* writes that in the mouth of *Mæotis*, so great Ice was seen, that in the place that King *Mithridates* Generall overcame the Enemy in the Ice, the same he passed over with his Fleet. When *Constantinople* was taken four, the Sea of *Pontus* was so frozen for a 268. miles, that it was hard as a stone, and was above 30 Cubits thick. *Plin. l. 7. c. 2.* But *Olaus, l. 11. c. 25.* saith that in the North Sea, the Ice grows and draw along their Engins for Carts, and Barges, and the condition of the Ice there, is very strange. Being carried on the shore it presently thawes, no man furthering it, *Ziglerus, l. c. c. 8.* in Islandia, if it be kept, it vanisheth, and he affirms that some will turn to a stone. The Sea hath many colours. *Aristot. Meteor.* saith, that near the Inhabitants of the *East Indies*, there is a milky sea that is seen for 300 miles. *Strabo* also writes the same in his *Sixth Book*. That which washes the Island *Cabaque*, is sometimes green, and sometimes of the yeare, red; for the fish-fish every where powre much blood. *Petrus Hispan.* The red Sea, though it be so called, because it is tincctured with red waters, yet it is not of that nature, there for but the water is tainted by the shores that are near, and all the land about it is red, and next to the colour of blood. *Pliny l. 13. c. 17.* The Sea useth frequently to change its colour. *Aulus Gell. noct. Attic. l. 6. c. 30.* gives the cause, It is, saith he, observed by the best Philosophers, that when the South wind blows, the Sea is blewish, and greyish, but when the North blows, it is blacker and darker, *Oct.* When the Dog days are, it is troublesome. Men ascribe that to the Sun, that piere-

eth the inward parts of the Sea with its beams; and turns the grosser parts, but consumes them not. But this is strange that is said, that the Sea *Parium* in the New World, is so intangled with so many green herbs, that Men cannot sail in it; the long branches of herbs, like nets hindring them. That Sea is so like a Medow, that as the Waves turn all the herbs turn with it also; that the storms are lesse from the Waves, than from the grasse. This endangers Sea-Men, and first *Columbus*, *Ovetan. l. 2. c. 2.* For the Ships are held by the bendings of little branches, that they cannot turn. It is deep enough for *Galleys* to row in, but the herbs rise from the bottom, and grow together on the top, and are 15 hand-breadth higher sometimes. *Pliny, l. 13. c. 25.* reports that in the red Sea, Woods flourish; chiefly the Laurel, and the Olive, bearing Olives, and if it rain, Mushrooms; which, when the Sun shines, are converted into a Pumex-stone. The sprouts themselves, are 3. cubits great, and are stored with abundance of dog fish, that it is scarce safe to look out of the Ships and they will set upon the very oars off times. The Souldiers of *Alexander* that sailed from *India*, reported that the boughs of Trees in the Sea were green, but taken out of the Sea, were presently changed by the Sun into dry salt. Also *Polybius* reports, that in the Sea of *Portugal*, Oakes grow, that the *Thynni* Fishes feeding on their Acorns grow fat. *Athenæus, l. 7.*

Artic. 4. *Of the Saltnesse of the Sea.*

THe Works of God are wonderfull in Nature, but two are most wonderfull, the saltnesse of the Sea, and its flowing and ebbing. It is said, that there is an Island in the Southern Ocean, that is watered by a sweet Sea; which also *Diodorus Siculus* seems to testifie and assert, concerning the *Scythian* Sea, *Pliny l. 6. c. 17.* But that is ascribed to the great running of Rivers into it; and how small is this in respect of the other Sea? Yet Philosophers argue concerning the saltnesse of the Sea.

Aristotle l. 2. Meteor. c. 1. calls for the nature of the Sea, and efficacy of the Sun, to assist him. For the Sea-waters by the mixture of the ground and the shores is thicker, and the Sun by its heat calls forth thinner parts, and resolves them into vapours; which being burnt with heat, and mingled with the water, cause its saltnesse. Mans body will help us in this, wherein the native heat dissolves the sweetest meats into the saltest humours; which being collected in the Reins, is cast forth by urine. Experience confirms it; that shews us that the Sea is more salt in Summer than in Winter, and more toward the East and South than elsewhere. *Lydiat* likes not this opinion, but brings another; That Youth may more exactly comprehend the sense of this brave man; We will set it down here in a few Propositions.

I. *The vehement heat of the Sun doth not boyl the Sea to be salt.* For, 1. Why is not the same done in a little water in a basin? 2. The

2. The same cause of saltnesse should work upon the subject, with lesse resistance.

II. *A hot dry, earthly exhalation carried by rain into the Sea, is not the cause of its saltnesse.* For, 1. Why is not the same done in Rounceivals? 2. It is too little. 3. Why is it not only salt in the superficies, but in the deep? For though *Scaliger, Exercit. 51.* denyes that, saying, that the Urinators have proved it to be sweet, yet *Rauricus* saith it was found otherwise in the narrow Sea between *Creta* and *Egypt*, where it was very calm; *Philip. Florentinus* witnesseth the same.

III. *The Sea is salt by the mixture of something with it.* That is clear, because all tasting is of mixt bodies.

IV. *That which is mingled with the Sea, hath the nature of a fiery exhalation.* That is apparent, 1. Because the Sea is fiery. For it will hardly extinguish flames, and it is easily inflamed. 2. Bodies that are washed in it are quickly dryed. 3. The Islands are hot as *Britannia*, and *France* hotter.

V. The Sea is not only salt, but bitter; therefore it is often called *Mare*, than *Salum*.

VI. *The salt and bitternesse of the Sea is from a subterraneal bituminous fire.* 1. Bitumen is perceived so bitter in taste, that it may be known to be the first subject of it. 2. Bitumen hath great force to cause a salt and bitter taste. The bituminous Lake of *Palestina* is so salt and bitter, that no Fish is bred in it; it scours cloaths if one wet them, and shake it well out. 3. *Pliny* reports, that a bituminous water that is also salt at *Babylon*, is cast out of their Wells into salt Pits, and is thickned partly into Bitumen, partly into Salt.

VII. *A salt Exhalation proceeding from those Deeps, is easily divided by the body of the Sea.* For as fine flowers, or any thing else calm upon boyling liquor, is cast from the place that boyls, unto other parts, on one side to the other, if in the middle to the circumference; so a bituminous Exhalation from thence where it boyleth most, and where it is most hot, is cast and dispell'd into the whole body of the Sea, which *Lydiat* saith.

Artic. 5. *Of the Ebbing and Flowing of the Sea.*

ANother great miracle of Nature is the Ebbing and Flowing of the Sea, When the Philosopher sought for the cause of it, he grew desperate.

Possidonius in Strabo l. 3. Geograph. makes 3. Circuits of the Sea's motion. The diurnall, monethly, and yearly. The first is, when the Moon is risen above the Horizon but one sign of the Zodiack, or is gone down under the Horizon; then the Sea swells untill the Moon comes to the midst of the Heaven, be it above or beneath the Earth. When it declines from thence, the Sea begins to retire untill the Moon is but one sign distant from the East or West, and then it stops. *Pliny* assents thus far to him, that the flowing of the Sea begins about two equinoctiall hours after the rising or setting of the Moon, and ends just so long before its setting or rising. He determines the other so, be

monethly,

monthly, in the conjunction, when he saith, That the greatest and quickest returnings of the Sea do happen about the new, and full Moons; the mean, about the Quarters of the Moon. And Mariners approve this, when they call it the *Living Sea*, by reason of the great ebbings and flowings, in the new and full Moons; but the dead Sea in the half Moons, because of the lesser and slower motions of it. *Possidonius* addes more; That one *Seleucus*, observed a Sea, that was derived from the red Sea, and was different from it, that kept the monethly course of returnings, namely according to the Lunar moneth, which men call periodically. For he had observed in the Moon being in the Equinoctiall signes, that the Tides were equall, but in the solstices they were unequall both for quantity and swiftness, and the same inequality held in the rest, so as any of them happened near to the forelaid places. Lastly, *Possidonius* saith, That he learned the yearly motions from the Mariners of *Gades*. For they say, that about the summer Solstice, the ebbing and flowing of the Sea increaseth much; and that he conjectured the same did diminish as far as the Equinoctial; and again to increase untill Winter, from thence to decrease untill the spring Equinox; and so increase again untill the Summer solstice. *Pliny* determines the contrary, by reason of the Equinox. But *Patricius* witnesseth, That in *Libania*, in January great part of the strand are naked, and continue dry for some dayes. The same *Pliny* l. 2. c. 97. observes, That in every eight years, in the Moons 100 circumvolution, the Tides are called back to their first motions, and like increasings; that is to say, the Sun and Moon then returning to a conjunction in the same sign and degree, wherein they were in conjunction eight years before. But for the daily Tides there is a difference amongst Writers. In the *Sicilian* Sea the ebbings and flowings are twice a day, and twice in the night. *Eurypus* in the *Sinus* of *Ægeum* repeats its motion 7. times a day, and sometimes is seen thrown down from the highest Mountains, and so steep downs, that no ships can be safe there, *Basil in Hexaemer.*

In *England* at *Bristoll* the Ebb is daily twice, and so great, that the ships that were in the Sea, stand dry, and are twice on dry Land, twice in the Sea.

Pytheas Massiliensis, as *Pliny* testifies, l. 2. c. 67. writes, that it swells fourscore cubits higher than *Britanny*. In the Southern part of the New World, the Sea rising, flowes two Leagues, *Quetan summ.* c. 9. But in a certain Northern Sea there is no flowing or ebbing observed by the waves of it, *Petrus Hispan.* p. 5. c. 1. Not far from *Cuba* Promontory, and by the shores of *Margaret* Iland, and *Paria*, the Sea flowes naturally; nor can ships by any means, though they have a prosperous gale, sayl against the floods, nor make a mile in a whole day, *Petrus Martyr in sum. Indic.* In the *Adriatick* Sea formerly there was wont to be a very great flowing forth, early in the morning, the Sea being so advanced into the Continent, that it went as far up as a strong man could run in a day, *Procop. l. 1. Bell. Gothici*, But singular was that Tide, and a wonder of the World, which *Alexander*

Alexander saw, *Johannes Huga Hanschotius* speaks of it in his works of *America*, and *Calpurnius Barbarus* in his passage into *Sarum*. He when he journeyed from the *Indian* Mart of St. *Thomas* into the Kingdome of *Pegua*; which is in *India* beyond *Ganges*, having journeyed ten dayes he came to a place named *Maccarea*, (for so he calls it) and it is the mouth of that *Indian* River, which *Alexander* sailed over. In the same Book, those Entrances are called *Maccarea Synus*, which is a Sea-Port, upon the shore whereof are no wooden steps, which the Sea flowes by, and when it ebbs, leaves them all bare, which is one of the greatest wonders of the World. For the water increaseth above to admiration, and decreaseth so, that a stranger would think it impossible.

The Ships that approach to *Martavanum*, (it is a frontier of the Coasts in the same Country, the Sea there is called the Sea of *Bengala*) when the water increaseth, run swifter than an Arrow out of a Bow, and that so long as the flood runs into the Land; when that goes back, they are left on dry grounds; the flood is higher than the top of any Trees. The ships left to the Sea, are carried backwards with their sterns looking into the Sea. It comes in with a mighty noise, and sprinkling of water, so that it wets all. This place is opposite to the Iland *Cawchena*, that is in the South, not far from the promontory of its high hills stretched forth into the Sea. But now let us come to the cause, and consider whence comes this flowing of the Sea. The vulgar opinion is, that the cause proceeds from the Moons beams, by the intermediating of the Ayr, which swells and receives the Moons beames, and carryes them with it into the Sea waters. So the Moons beames do affect the water of the Sea with a kind of warmth, and that warmth by rarefaction fills the Sea with [illegible] whence it calls *Keckerman de navigation. Libavius*, *lib.* 5. *de rerum* [illegible] but that the Sun may assist somewhat, as also the Moon that [illegible] Planet, yet in these, saith he, cannot consist the first nor [illegible] cause, nor the only cause, but there are only some helps and occasions, whereby the naturall causes may be moved, and remote action. For the Sea had that power before those Stars were created, as it seems to be certain, nor do we read any where that those Planets were Created, for the waters ebbing and flowing; but that they should be for signs, and for times, for days and for years. But they should shine in the Firmament of Heaven, should distinguish darknesse and light, and govern dayes and nights. *Libavius* sets forth a fourefold flowing of the Sea. The first from East to West, by the *Ethiopic* shore, and in *Bosphorus* and *Hellespont*, where *Pontus* passeth swiftly by the shores of *Thracia*, and *Asia*, which Tide rather follows the motion of the *primum mobile*, than of the Sun or Moon, as also the Ayr it self, which is especially noted under the Ecliptick, where that flux of the Ayr with the Sea Vapours and exhalations, causeth those winds, they call *Bryses*; and opposite to these are those that blow without the Tropicks called *Kedauales*. The other proceed from such Monsters as abide in the Sea, chiefly from whales. The third is of *Europe* places

in

in particular, which proceed from whirlepools, by which the waters are suckt up and spued out again by turns. It is very probable this happens in *Charybdis*, the *Syrtes*, and *Chalcydis* about *Euboa*. This represents a true flowing, and comes from winds breaking forth of the Caves of the Earth, and forcing forward the waters, or to the Waves running backagain and sinking down. But the fourth is a true ebbing and flowing, which runs neither Eastward nor Westward, but begins from the Navel of the Sea, and that boyls up, and as the waters rise thus, they are powred forth toward the Banks, more or lesse, as the cause is more or lesse violent; unlesse something hinder, the cause whereof we shall seek last of all. And true it is that *Mariners* in the straights of *Magellan*, where the *South Sea* is separated from the *North* by a notable difference, marking diligently the Tydes of both Seas, have observed what they could not do in the vast Ocean, namely that both Seas do not begin to flow at the same time. And that it is not moved by any outward cause, not from the Heavens, nor is it brought in from the East or West, but comes from the bottom of it, and boyles out from thence, the superfluity running toward the Land variously, as the swelling is great or small, the shores high or low, and the cause that moves it from the bottom upwards, weaker or stronger. This is confirmed by the nature of the water, which casts up from the bottom whatsoever it sucks in, if it be not too heavy. Hence it comes to passe that all Seas purge themselves in the full of the Moon. Not that the attraction of the Moon is the cause of it, but because the wind that was in the interim collected in the hollow places under ground, strives to fly upwards, or being heaped up about the putrefactions of the Sea, breaks forth. *Pydrat. de orig. fontium*, attributes it to subterranean fire. That you may know the grounds of his opinion, I will set it down in a few Propositions.

I. *The flowing of the Sea is not because of the Moon, by the nearnesse of her light, and of that especially which she borrowes, which breeds exhalations, whereby the waters swell and run over.* For in the full Moon her light is thwart the earth, and yet there is a tide great enough.

II. *The Sun and Moon do not by their beams cause the flowing of the Sea.* 1. When it flowes in one hemisphear, and both the Luminaries are in the other, what is the cause of that? For it hath not equall forces in both. 2. If Sun and Moon cause the flowing of the Sea, wherefore elsewhere in the very Ocean, and that between the torrid Zone, where their power is extream, are there no Tides at all, or very small ones?

III. When we enquire concerning the flowing of the Sea, we must suppose: 1. *That there is a wonderfull plenty of water in the bosome of the Earth.* 2. *That water which is in the bosome of the Earth is not onely continued to it self, but to this we see, in the Sea, and is joyned with it by the channels or open chaps of the Earth.* First, it is probable from hence, that it is a part of the same body. Then, the deeps of the Sea, that were never yet certainly known, are a token of it. 3. *When two most vaste Continents, on this side* Asia Africa Europe; *on that* America, *divide almost*

almost the whole Ocean into two opposite parts of the world, and make it two. It seems not improper, *so far as we are able to comprehend, that their chiefe depths and gulphs are almost made directly opposite, and one right against the other.* Since one, the great depth of the Sea was acknowledged by *Plato*, and in the sacred Volume of the *Hebrews*, Gen. 7. is found to be called the great depth.

IV. *The Moon with the Sun being in our antipodes can cause the flowing of the waters in our Seas.* For the water is fluid, and thin body, and subject to the Moons Government.

V. *It can do more with a shining and fire, or with burning wood, than we suppose to be in Gulphs.* For in moist fuel and boyled meats, while they are dressed by their beams, the more direct they are when they fall upon the Gulphs, and they are more direct when the Moon is perpendicular, than when they fall obliquely. It is apparent that the Sea is cherished equally in both hemispheres. 1. Because the force of the beams passeth twister than light beams from one hemisphear to another by the Diameter of the Earth penetrated: as in Gunpowder, which at a long train, if thou strike spark, takes fire. 2. The nature of Bitumens is to be apt to be enflamed beyond belief: for Naphta not yet fired, drawn near fire to it, takes fire at a distance. 3. The Stars is of the same kind, subtile for the heavens, and the subterranean fire is of a glutinous disposition. 4. Between the watry Moon and the bituminous fire, and waters, there is affinity. Nor also between the Sun. For *Aristotle lib. 10. meteor.* writes that Metallick stones, and the like, partly bituminous, sometimes on fire, will burn in the Sun: wherefore it is to be wondred at, that a bituminous fire in its natural subject, that is moyst, should all burn the more, by the continuate beams of the Sun, and especially of the Moon, by reason of its exhalations sent to the superficies of the water. This way is confirmed by those things that are written of the Straits of *Sicily*, and the Gulphs about *Italy*, *Strabo*, *Pliny*, that the Tides agree with the motion of the Ocean.

VI. *The ebbings and flowings are greater in the New and Full Moons.* For the Sun and Moon united, are the strongest, and in those times the Sun and Moon rise and set together, over the same Horizon.

VII. *Some write that the Ocean swells most in the Equinoxes.* Now that comes to passe, 1. Because the Sun and the Planets are in the Equinoxes, and the Equator in both the Tropicks. 2. Because a certain respect of the Sun in the Equinoxes doth increase his vertue; so the Moon also having a fit respect to some Planets, as to *Venus*, is said to cause greater Tides.

VIII. *Wherever the Sea swells, the waters about the deep places of it being filled with a bituminous fire, is brought to be very hot and to boyle.* By the swelling of its boyling, the water that is in the superficies is forced unto the shores of the Continent, and into the Mouths of Rivers. But it is not necessary, that it should be actually hot, when as it is far from the place where it boyls.

IX. *The Eubean Euripus doth not flow 7 times a day at set times, but uncertainly*

uncertainly like a wind; the Sea being moved sometimes this way, sometimes that, as a torrent is carried from a steep mountain, where it falls down from it.

X. *Every Sea that is salt doth not flow.* For the exhalation is diffused more easily, swiftly, and farther, than the Tide is moved, as we see in flesh boyled in liquor, the scum ascends before the pot boyls.

XI. *The Sea coming in hath more force than when it goes out.* This rising of the Sea, *Strabo* compares to Expiration and Respiration; but it is more like to the pulse of the Heart and Arteries, by the Diastole whereof there is distributed into the whole Sea, a fale vapour, that hinders corruption. Thus much out of *Eyas*, [illegible] which you please.

CHAP. VII.

Artic. I. *Of the New World.*

SOme suppose, that whatsoever is seen beyond the *Atlantick* Sea toward the West, was unknown to former Ages; *Columbus* first discovered it. And *Americus Vespusius*, *Magellan*, *Cavendish*, *Sir Hart*, and others followed him, and every one of these discovered some corner of it. To say nothing of *Xanto*, who sailed by *Guinea*, *Frobisher* and *Hollinder*, who sailed Northward. There differeth the dutch among the philosophers; how Men came thither. Bishop *Philip* was [illegible] and learned, because he maintain'd *Antipodes*, though all [illegible] it, saying, that he added, That men enjoyed there another Heaven, and another Sun. Yet others judge that the Ancients did know that Country; *Seneca's* Prediction in *Medea* is well known.

It shall an time to come,
That the Sea will make more room,
And new World the men shall know,
Nor Great Earth here below
Shall Thule longer be.

See *Cicero*, who calls them *Antaxones*, because their pole is opposite to ours. *Mela* calls them *Antichthones*, as if he should say, A Land against ours. And in *Plato's Timaeus* there is mention made of the Island *Atlantis*, which he affirms to be greater than *Asia* and *Africa*; These are his words:

It is recorded, that the City of Athens resisted formerly an infinite company of Enemies which came from the Atlantick Sea, and possessed almost all Europe *and* Asia. *For then was that narrow Sea Navigable, having in the Mouth, and as it were the Entrance into it, an Island which they call* Hercules *Pillar, and it is reported, that that Island was greater then* Africa *and*

and Asia, *by which the passage was open to other neighbouring Islands, and from the Island to all the continent, which was in sight, and neere to the Ocean; but in the mouth of it there was said to be a Haven with a narrow entrance, &c: After this, by a wonderfull Earth-quake, and a continuall inundation for a day and a night, it came to passe that the Earth clave asunder, and swallowed all those warlike people, and the Island of* Atlantis *was drowned in the deep.*

But *Aristotle, lib. de admirand. c.* 8. relates, that in the *Sea* beyond *Hercul's* Pillars, an Island was found out by the *Carthagenians*, which had Woods and Rivers fit for shipping, but it was distant many days Voyage. But when more *Carthagenians*, allured by the happinesse of the place, came and dwelt amongst the Inhabitants, they were condemned to death, by the Commanders; he adds, by those that sayled thither. Let us also hear *Seneca, lib.* 7. *quæst. c.* 31. *The people that shall come after us, shall know many things we know not; many things are reserved for after ages, when we are dead and forgotten. The world is but a very small matter, unlesse every age may have something to search for.* And again, *quæst.* 5. *c. ult; whence do I know, whether there may not be some Commander of a great Nation, now not known, that may swell with Fortun's favours, and not contain his forces within his own bounds? whether he may not provide ships to attempt places unknown? How do I know whether this or that wind may bring warr?* Some suppose *Augustus* extended his Empire so far. *Marianus Siculus* is the Authour, that there was found in the new World, old Golden Money with the Image of *Augustus*; and that it was sent to *Rome* to the Pope in token of fidelity, by *Johannes Russius*, Bishop of *Consentia*. That is more wonderfull, that the *Spaniards* write; that there is a Town in the Province of *Chili*, in the Valley called *Cauten*, which they name *Imperiola*, for this cause, because in many Houses, and Gates, they found the Spread Eagle, as we see now a dayes in the Arms of the *Roman Empire*. *Ammianus, l.* 17. observes something not unlike it, that in the obelisocks of the *Egyptians* there were ingraven many Pictures of Birds and Beasts, also of the other World. What shall we say to these things? We say they knew them, but scarse ever travelled thither. But if those relations are true that *Plato* reports, of which *Tertullian* also speaks, *Apolog. c.* 39. and *Marcellinus, l.* 17. we add farther: That the prediction of *Seneca* sounds rather of the British Islands in favour of *Claudius*: That is false which is said of *Augustus*, We have all the Acts of this Noble Prince; if there be any thing buried in silence, it is some mean matter; But Novelty easily gains the name of Antiquity, if there be fraud in him that forgeth it.

Artic. 2. *Of the miracles of some Countrys.*

PLiny relates, and we out of him. There is a famous Temple at *Paphos* dedicated to *Venus*, into a Court whereof it never rayns, *Pliny, l. 2. c. 96.* By *Harpasa* a Town of *Asia*, there stands a hard Rock, which you may move with one finger, but thrust it with your whole body, and you cannot stirr it. There is Earth in the City *Parasinum*, within the *Peninsula* of *Tauri*, that cures all wounds. In the Country *Ardanum*, Corn that is sowed will never grow. At the Altars of *Martia* in *Veii*, and at *Tusculanum*, and in the Wood *Ciminia* there are places, where things fastened into the Earth cannot be drawn forth. *Pliny, l. 2. c. 94.* In *Crustuminum*, Hay that grows there is hurtfull, but out of that place it becomes good. Some Earths tremble at the entrance, as in the Country of the *Gabii* not far from *Rome*, about a 100 Acres, when men ride upon it; and likewise at *Reate*. In the Hills of *Puteoli* the dust is opposed against the Sea Waves, and being once sunk, it becomes one stone that the waters cannot stirr, and daily grows stronger; also, if it be mingled with the *Cement* of *Cumæ*. *Plin. l. 35. c. 13.* Such is the nature of that Earth, that cut it of what bignesse you please, and sink it into the Sea, it is drawn forth a stone. In a Fountain of *Gnidium* that is sweet; in eight Months time the Earth turns to a stone. From *Oropus*, as far as *Aulis*, whatsoever earth is dipped in the Sea, it becomes a stone.

Tilling of the ground was of old, of great esteem amongst the *Romans*, they found one sowing, and gave him honours, whence is the surname *Serranus*. As *Cincinnatus* was ploughing his four Acres in the Vatican, which are called *Quintus* his *Meadows*, *Viator* offered him the Dictator ship, and, as it is reported, that he was naked, and his whole body full of dust; To whom *Viator* said. Put on thy Cloths, that I may deliver to thee, the commands of the Senate and people of *Rome*: Whence, *Pliny, l. 18. c. 3.* answers to this question, Whence was it then they had so great plenty? *The Rulers at that time tilled their grounds with their own hands* (as it is fit to beleive). *The Earth enjoying a plow Crowned with Laurel, and a Victorious plowman: whether it were that they managed their Corn with the same care they did their Wars; and disposed of their fields with the same diligence they did their Camps; or because by honest labour, all things prosper better, because they are don more carefully.*

CHAP.

CHAP. VIII.

Of the Islands.

Artic. 1. *Of the Originall and destruction of Islands.*

ISlands are parts of the Earth, compassed about with the Sea. They have many causes of their beginnings. Some came forth of the Sea; some were broke off from the continent; some were made by matters heaped together. One was made in the *Ægæa* Sea, while *Seneca* beheld it: *Seneca, quest. l. 6. c. 21.* He adds that another came forth of the Sea in his Forefathers dayes; The Sea (saith he) fomed continually, and a smoke ascended from the deep; for at last it did disclose a fire not continual, but shinning by times as lightnings do; as oft as the heat of that was under, had vanquished the weight that lay a top: At length stones were rolled together, and Rocks partly untouched, which the vapour had driven forth, before they were transformed, and partly corroded, and turned to be as light as a pumex-stone; last of all, appeared the top of a burnt Mountain, *Cæ. Strabo l. 6. 1. Geograph.* writes, that between *Thera* and *Therasia* a flame first brake forth of the Sea for four dayes together, as if the Sea burnt; then by little and little came forth an Island that was twelve furlongs wide, and it was all made of fire-stones. *Atalante*, a City of *Locris* that was fast and contiguous to it, was cut off by a sudden violence of the Sea, and was made an Island by itself. *Orosius, l. 2. c. 18.* Under *Leo* the Emperour, an old Historian, (*Evagrius, l. 2. c. 14.*) hath said, that at *Constantinople*, and *Bithynia*, there was such abundance of Rain, that in the Lake *Beana*, which is not far from *Nicomedia*, by the frequent filthy matter cast into it, Islands were made, thus began the Island *Tyberina*. For *Lucretia* being violated by *Tarquin*, when *Brutus* had given counsel to plunder the Kings goods, and to cast them into *Tyber*, an Island was made. So *Livy, l. 2. Histor.* *By chance some standing Corn was then of Wheat or Barley, that was ready for the harvest, which fruit of the field, because it was unlawfull to destroy, they cut the Corn down with the straw by the help of many men coming together, and poured it out of baskets into Tyber, where it rain but slowly, as it is wont in the hot weather, and so the heaps of Corn remained in the foards, wrapp'd over with mud*, whence by degrees, and by other things cast in by accident, an Island was made. Also some Islands have ceased to be, as *Pliny* saith, *lib. 2. c. 89.* *Antissa* first an Island was joyned to *Lesbos*, *Zephyrium* to *Halicarnassus*, *Æthusa* to *Myndus*, *Narthecusa* to *Parthenius Promontory*. *Hybanda* was once an Island of *Ionia*, now it is 200 furlongs from the Sea. *Ephesus* hath *Syrien* in the *Mediterranean*.

Artic. 2. *Of the Miracles of some Islands.*

AS Nature hath given Islands, so she hath bestowed on some, singular prerogatives. There is an Island in a certain Lake, about the entring of *Nilus*, that hath Groves, Woods, and great buildings upon it, yet they flote, and it is driven every way with the wind, *Mela, l.* 1. *c.* 5. In the Lake *Vadimonis*, and *Cutilia*, there is a dark Wood, that is never seen a night and a day in the same place, *Plin. l.* 2. *c.* 95. *Of the latter Macrobius speaks*; *l.* 1. *Satur. c.* 7. *The* Pelagi *found an Island in the Lake* Cutilia, *for there are large feilds for grasse, whether it were a continent, or the mud of the Lake, it is handsomly trimmed up, and sitly joyned with twigs and Trees like a vaste Wood, and floats every way with the Sea floods, that from hence we may credit the relation of* Delus, *which hath high Mountaines and large Champion ground, yet floats on the Sea.* The *Calaminæ* so called, in *Lydia*, are not only driven by the winds, but by long poles, whither one please, and many Citizens escaped by that means in Mithridates Warr, *Plin: l.* 2. *c.* 95.

In the great Lake *Tarquiniense* in *Italy*, there are two that carry woods, sometimes they are of a three square figure, sometimes round in compasse, when the winds drive them, but they are never four square. In *Garumna* a River in *Spain*, the Island *Atros* is pendulous, and lifted up with the waters increasing, *Mela l.* 3. *c.* 1. Also in *Nympheum* there are small ones called *Saltuares*, because in singing of a consort they move at the strokes of the musicall paces: Besides these, in the *Fortunatæ*, Fennel gigant growes as big as a Tree, *Solin. c.* 58. In *Madera*, grapes hang down upon four branches, the skins fill'd with juice, want a kernel, they are ready to gather in *March. Cadamustus*, when *Columbus* found out the Island *Hispaniola*, he mowed Wheat on the 30 of *March*, that was sowen in the beginning of *February*; In this short time the ears grew so great, that they were as long and a big as a mans Arm: Each of them contain'd 2000 grains, *Peter Martyr in Sum. Indiæ.* There are fresh Melons every quarter of the year, *Ovetan. Sum. c.* 81. *Historiar. l.* 11. *c.* 1. so great, that one man can hardly carry one upon his shoulders. Grasse mowed will in five dayes grow a cubit high again. *Tyles*, two Islands in the *Persian* Gulph, the Land of them exceeds all other places for this rarity, that no Tree that growes there ever wants leaves, *Solin. c.* 53. In the Island *Ormutium* no living creature is found, nor any Fountain-water; Manna falls down with the night dew, *Polus l.* 3. *c.* 4. Dogs will not come into *Sigaron* an Island of *Arabia Fœlix*; put them there, and they die running mad, *Plin. l.* 6. *c.* 28. In *Ithaca*, Hares brought thither from other places cannot live, *Aristot. histor. Animal. l.* 8. *c.* 28. *Ebusus*, one of the *Baleares*, hath no Serpents at all, *Plin. l.* 10. *c.* 29. In *Creta* there lives no Owl; bring one thither, it will die: and in the same Island there is no mischievous living Creature besides the Spider *Philangium*. *Cyprus* in former times was so impatient of graves, that it would cast forth the next night, bodies buried in the day. *Ericus*

Ericus the first *Danish* King was brought dead to *Jerusalem* by the winds, who was intended for the same place, *Saxo Gram. l.* 12. In the Island *Cephalonia* there is a River that hath on one side an infinite multitude of Grasshoppers, but none on the other side, *Aristot. histor. Animal. l.* 8. *c.* 28. In *Cumana* an Island of the New World, the Cobwebs of Spiders are knit so fast, that they cannot be broken, *Hispan. p.* 5. *c.* 15. Iron that is dug up in *Ilva*, cannot be melted there, *Bertius in descript. Ilvæ.* To conclude this, in the Arm of the Sea, by *Portha*, there is the Island *Magotia*; In this Birds build, like Wild-Geese, in such great multitudes, that the 100 Garrison Souldiers that defend the Fort *Bassus*, feed on no other meat than fresh fish, brought in hourly by these birds; nor do they use any other wood but the sticks to make fires, which the birds bring to build their Nests. *Bellovadius*; and from him, *Thuan. in histor.*

CHAP. IX.

Of Mountains.

Artic. 1. *Of the Qualities and Quantities of Mountains.*

WEe must suppose the Mountains to have been created at the beginning in part, and part of them have been made since; Onely one Modern Authour in *Italy* may confirm this. There are many in the World of wonderfull height, and admirable qualities. *Olympus* and *Athos* are so high, that Ashes left on the top of them, a whole year, are neither blown away with winds, nor washt off with rain: And such as stand on the Top of *Vesuvius*, have observed the Clowds that are near to be of equall height with the Mountain, and some Clowds to appear under them, *Kepler*, l. 1. *Astrom.* p. 3. What *Zabarel* writes of the Region of the Ayr, *c.* 8. doth make this good, *I went* (saith he) *up to the top of* Venus *hill in* Paravium; *and there for the whole day I had a most clear Ayr; but about the middle of the Mountain I saw Clowds, which were between my sight and the Valleys; that I could not see them; but in the Evening when I was come down from that Mountain, I found that it had rained a great shower that day at the lower parts of that Mountain, yet it rained not at all on the top of it.* *Piccolomin. de Meteor. c.* 11. saith, the same thing happened to him travelling over the *Alps*, and *Apenninus*. In *Seleucia* there is a Mountain next to *Antioch*, from whose top at the fourth Watch of the night the Suns body might be seen; and but turning the body about, the beams dissipating darknesse, there was day, here night to be seen, *Solin. c.* 37. The Walk about to the top is 19 miles, and 4. miles upright. In the Country of the New World, some Mountains are above 50 miles high; some are so high, that you cannot see the valleys in three days coming down, *Martyr in Sum.* and *Polus l.* 2. *c.* 43. In *Tenerif*, which is like a Pyramid, it is 60 *Italian* miles high, *Cadamustus*. If you regard the

the qualities, some abound with great Lakes, some vomit out fire; others have other rarities worthy admiration.

In Mount *Noha* of *Arabia Felix*, there is a wonderfull Cistern, seen for collecting of rain waters, which will serve for 100000 men. At *Dossrinium* in *Sweden* they are covered with such a masse of Snow, even in Summer also, that the balls falling from tops of houses, grow so much in the foot of them, that they overthrow the Towns, *Olaus* l.3. c.23. In new *Spain*, there is a smoke that alwayes riseth out of the top of a certain Mountain, and keeps round like a Globe; as it ascends no winds disperse it, and it moves as swift as an arrow, *Cortes. relat.* 2. In *Helvetia* near to *Lucerna* there is a Mountain, and in that is *Pilat's* Lake; if you cast a stone into it, you raise tempests, and *Pilat* is seen there every year, if you will believe it, in the Habit of a Judge, *Joachimus Vadianus in Mela.* In the *Alps* of *Spain* there are Mountains of Salt onely: *Cato Major* saith, the more you take from them, so much more will grow to them, *Gellius l.* 2. *c.*22. In the Province of *Cyrene*, there is a Rock and Fountain of the Suns; when you touch it with a mans hand, a Fountain riseth, and it riseth as fiercely as the Sea in its fury, *Mela* l.1. c.4. Lastly, there are two Mountains about the River *Indus*, the nature of the one is to hold all Iron, the other to refuse it: therefore if there be nails in your shooes, the one Rock holds your feet immoveable; the other drives them off, *Pliny l.*2. *c.*96.

Artic. 2. *Of Ætna and Hecla Mountains.*

ÆTna is a Mountain in *Sicilie*, hanging over the City *Catana*, and all the shore there; *Pliny*, *Mela*, *Ptolomey*, *Strabo*, *Solinus* mention it. The Inhabitants call it now vulgarly, *Monte Gibello.* It hath two Caves, whereof the one is narrow and straight like a pit putting out stones every way like two bed sides: the stones are burnt, and of many colours, and a stony plain holds it in a narrow circumference. The other is in circumference 24 furlongs, it goes not to the bottom of the same largenesse, but the belly of it is something narrower inwardly, so long, till in the middle of it, it is hollowed with a fit mouth to cast out what the Mountain affords. Smoke comes alwaies forth of those two holes; when the Sky is clear, it is most white, like a cloud; the fires are not seen, unlesse some burning flame rise up, *Bembus in dialogo. Claverius*, *Sicil. Antiq. l.* 1. *c.* 8. found stones cast out from thence 60 miles from it, on both sides of the City *Catana*, by the way men go from *Leontini* to *Tauromenium*, but especially to *Catana* it self, at the foot of the banks by *Aetna*, which is the way to *Tauromenium*, where they represent a sad and formidable Spectacle to Travellers, of great and sharp Rocks. That noyse hath been sometimes so great, that they could hear it as far as to the Hills *Gemelli*; the sparks were so great, that they flew burning so far as *Catana*, and wasted the Town with fire: somewhiles there was such plenty of Ashes driven with the winds, that they fill'd all places 100 miles; the

the smoke was so thick, that it so hindred the light, that no man could see in two dayes. At sundry times the burning of this Mountain hath been after a diverse manner. *Anno*, 1329, *on the Ides of July*, about Sun set, from the bottom of the Mountain, suddenly a great Mouth; and a little after, two more were opened in the same ground, with that force, that out of four Caves not far asunder one from the other, an infinite quantity of great stones were cast forth at once; and lifted up the low Valleys, and Forrests, and Woods, to the height of Mountaines; For a mighty River ran out of these four Gulphs, like mettals melting in the Furnace, burning not only the Land, it lighted upon, Trees, stones, but also consuming them; the ground it self that men before went upon, was on fire, and was sent and dispersed far and wide as foam of the Sea that beats against Rocks.

But after that this Torrent of fire had passed through many passages of the Mountain, it divided it self at last into three Channells, two of them ran Eastward for many days, the third ran toward *Catana*; which before it entred the borders of it, the vail of St. *Agatha à Sacerdotibus* being cast before it, by the walls of the City, did extinguish it; while these things were done in the lower part of the Mountain, the rage was no lesse on the top of it; whence there rose such a shour of Ashes in the Country of *Catana*, that Fields and Mountaines were hid by it. And the North wind then blowing, plenty of them with a brimstony smell were brought as far as the Island of *Malta*, which is a 160 miles distant from the Hole. *Amongst the greatest Torrents, that is reckoned, which hapned a little before our days*, (they are the words of *Bembus* in his dialogue of *Ætna*) that ran as far as *Catana*, and wasted great part of the City by fire, and that Haven, of which Virgil writes,

And that great Harbour where no wind could blow,
Near thundring Ætna lyes some thing below.

The torrents of *Ætna* have so filled up the Haven now, that you would say VIRGIL committed an errour to speak of a great Harbour where is none to be seen almost. *Anno*, 1537. on the Calends of *May*, all *Sicily* for 12 dayes together began to thunder, like *Canon* shott off frequently. The noise was heard not only at *Catana* and neighbouring places, but at *Palermo*, *Lylibeum*, *Sacca*, *Agrigentum*, and allmost in the whole Island, whereby a little Earthquak arose that shook the houses. When these hideous sounds increased, on the third of the Ides of *May*, unusuall Caves were opened in *Ætna*, out of which so great a quantity of fiery matter was cast forth, that in four dayes it went 15, miles, and burnt down all things it met with, and run as farr as the Monastery of St. *Nicolas*, *de Arenis* where, (leaving the Monastery untouched) it invaded *Nivolasum*, and *Monpelavium* two Towns, and allmost destroy'd them. The upper hole of the Mountain, shortly after for three dayes cast out so much black ashes, that as far as *Consentia* in *Calabria*, the Towns were filled

filled with ashes, and they were so scattered by the winds upon the Seas, that for 300 miles distant from *Sicily*, the ships were fowled by the ashes: afterwards *Ætna* began to rore mightily, and as it did rore the upper top of it was broken off, and swallowed in the Cave. Though the fire of *Aetna* be so terrible, yet the land there is so fruitfull that what *Pliny* speaks of *Campania*, *l.* 3. *c.* 6. we may say the same of the neighbouring parts, *From this border begin the hills that beare grapes, the juyce whereof is famous in all lands, and the great contest between Bacchus, noble for drunkennesse (as the Antients said) and Ceres.* In that wooddy Country there are spacious places, (saith *Fazellus*, *rer. sic. dec.* 1, *l.* 2. *c.* 4.) that are very fruitfull for Corn, and there is so good pasture for Cattle, that unlesse you let them often blood in their ears, they are in danger by plethory. moreover the fluent matter that is cast forth of *Ætna* by this fire, growes so hard, that for a good depth it changeth the surface of the ground into a stone, and when they would come at the ground they must cut the stones. For the stone being melted in the Holes or Caves, and cast forth, the humour that swims on the top, is black mire running down from the Mountain, and when it growes together, it becomes as hard as a Millstone, holding the same colour, it had when it ran, and ashes are made of the burnt stones, as of burnt Wood, now as Rue is nourished with Wood-ashes, so it is credible that the Vines flourish by the ashes of *Ætna*. And thus far for *Ætna*. *Hecla* is a Mountain in Islandia, not farr from the Sea, somtimes it casts forth flame, somtimes fiery water, after that black ashes and Pumex stones in such abundance, that it darkneth the Sun, yet somtimes the Mountain is wonderfull quiet, especially when the West wind blows. *An.* 1553. the 19, of *November*, about midnight a flame appeared in the Sea by *Hecla*, that lightned the whole Island. An hour after, the Island shaked, then there followed a terrible noise, that if all the Guns for Warr were shot off, they were nothing to this terrible noise. *Dithmarus Bleskenius* writes thus, We had thought the frame of the World would now be dissolved, and that the last day was come (*Camer Horar. subcis. cent.* 3. *c.* 17.). It was found afterwards that the Sea was gone back from that place two miles, & it was all left dry. *An.* 1580, it vomited out fire with such a noise, that for 80 miles men thought the great Guns were discharged. The common people think the souls of the damned, are there tormented. *Georgius Bruno in theatro Mundi.*

The End of the Second Clasis.

OF

OF Naturall VVonders.

The Third Clasis.

Wherein are the Wonders of the Meteors.

WHat then? Is it better think you to perish by distontent of Mind, or by Thunder? Therefore rise stronger against the threatenings of Heaven; and when the World is all on fire, think that thou hast nothing to lose in so great a Masse, Seneca, quæst. natur. l. 2. c. 59.

CHAP. I.

Of Subterraneous Exhalations.

METeors are made of Exhalations, the Sun and the rest of the Stars draw them forth; and the subterraneall fire is the worker of very many of them. We shall speak nothing of them. These are some hurtfull, some safe, as may be proved by many Examples. At the foot of the Mountain *Tritulum Helveatum*, there are waters you must ascend by 43 degrees, to a place of sweating, It is in length three miles, the more you are lifted up above them, the hotter you are; the more you descend into them, the cooler. Those draw flegme from the parts, and cure distillations from the head. There is a hot Bath near the hot waters that run forth of the Lake *Agnanum*; The ditches are covered with Turves of grasse, and stones being removed, a hot vapour is sent out, that makes them sweat that receive it. Out of *Avernus* a Lake of *Campania*, before *Agrippa* had cut down the Woods that covered it, and laid it open, the Exhalations were so thick that came forth, that the birds were killed that flew over it. At the Lake of *Agnanum* in *Italy*, there is a Mountain, in which there is a narrow Cave, it declines moderately downwards, being 8 foot long; if you touch the earth of it with your foot or hand, it feels hotter than the

the rest, it choaks any living creature that is cast in by the venomous blast, deprives them of sense and motion, though you pull it out presently; but cast the same presently into the next Lake, it is a wonder how it restores their life again, *Camer. Cent. 7. Mirab. mem. 50.* In the Island *Ebusus*, Exhalations do so infect the ground, that if they fall upon places where Serpents are, the pestilent Creatures can not endure them. In the great places of refreshment at *Baianum* there is a ditch, the water whereof sends forth such hot vapours, that wax Candles will melt, & be put out by them; and they are so pernicious, that men fall down dead therewith. In *Babylon* there is a Cave also, out of which riseth such a pestilent vapour, that it kills all that draw it in. Also *Plutonium* in a little hill of a Mountainous Country hath so moderate a mouth, that it can receive but one Man, but it is wonderfull deep: It is compassed about with square pales, and that so many as would compasse in half an Acre, which are so full of clowdy thick darknesse, that the ground can hardly be seen. The Ayr hurts not those who come to the outside of the pales, as being clear from that darknesse, when the winds blow not; If a living Creature goes in, he dies immediately. Bulls brought in fall down, and are drawn forth dead. Lastly, at *Hierapolis* in *Syria*, as *Dio in the Life of Trajan* writes, there is a den of a filthy and deadly smell; what living creature sucks it in, is destroyed by it; Only Eunuchs are free from the venom and hurt of it, *Scaliger, Exerc. 277. Sect. 4.*

CHAP. II.

Of Comets.

Artic. 1. *Of the Nature and Magnitude of Comets.*

THe original and nature of Comets hath diversly troubled wise men; nor yet was any man found that could decide the question. Some think they are perpetuall, and are carried about the Sun, like *Venus* and *Mercury*; and oftentimes they lye hid; some think they are newly created, and are not in sublunary but heavenly places. *Democritus* thought they were the soules of famous men, who when they had been vigorous many Ages in the earth, make their triumphs when they die. *Bodine* confesseth his ignorance; yet he to this inclines, and saith, At last they become fixt Stars; The cause, The Ancients say they all vanished, and did not set. Others said they were of two sorts; false ones in the Aire; true ones, who foreshew'd things to come from the heavenly place. What ever it be; they are secret things; and because they are in the Heavens, they are so much the harder. That which shined, *Anno* 1456. possessed more than two signs in the Heavens; That which appeared *Anno* 1472. for a whole month retrograde from *Libra*, ran through the whole Zodiack in its motion,

motion, at first 40 parts, then 120 parts every day, *Sennert. l. 4. Epitom. Cap. 2.* *Anno* 1556. *There was one so great, that not onely the most light and dry vapours, but all Woods and Groves, be they as many as are in the whole Earth, would not serve for to feed it two moneths that it shined.* They are *Bodin's* words, *l. 2. Theatr.* *Anno* 1543, it had a very long tayl toward the North, a flame flew from it like a Dragon, it drank up a River, and consumed the fruits of the ground, *Sennert. l. c.* When *Attalus* raigned, there was one so great, that it was stretched out exceedingly, and was equall to the milky way in the Heavens, *Senec. quæst. natural. l. 7. c. 15.* *Aristot. 1. Meteorol. c. 7.* In the time of *Anaxagoras*, a huge great one burned 75 dayes; and so great a Tempest of winds followed, that it brake a stone off as great as a Chariot, and the whirlwind carried it aloft, and threw it into the River *Ægæum* in *Thracia*, *Niceph. l. 12. c.* Again, in the Reign of *Theodosius* the elder, an unusuall one appeared at midnight, about *Lucifer*, and a great multitude of Stars were gathered about it, which by their mutual lustre felt out the greater light; this was resolved into one flame, like to a two edged sword; The same day in *July* the *Spaniards* report they saw it; that was fatall to them and to their Ships. *Cardanus l. 4. de varietat. c. 63.* saith, it happened either by reason of the purenesse of the Ayr, or the union of Light, or by reason of the darknesse of the day.

Artic. 2. *Of the Comets signification.*

MEn say, it is a fore-runner of Calamities, if we look upon the Judgment; and it is found so to be. It foreshew'd *Vespasian's* death; *Romes* Captivity by *Alaricus*; the miserable end of *Mauritius*; the destruction of *Mahomet*; the destructive diminution of the Emperours of *Rome*; the end of *Charles* the Great; the Excursion of the *Tartars* into *Silesia*, and the cutting off of Lugs. *Records* say, that *Charles* the Great when he saw it, was frighted; and reasoning with *Eginhartus*, he said it foreshew'd the death of a Prince. And when he, lest he should be sad at it, said, *Be not afraid at the signs in the Heavens*; He replyed, We must fear none but him who created us, and the Stars also: but we are bound to praise his Clemency, who will vouchsafe to admonish our sluggishnesse with such signs, *Alsted. in Chronol.* One was held to be fortunate, which appeared to *Augustus*, when he prepared Plays for his *Genitrix Venus*. These are his words, *Pliny l. 2. c. 25.* *The very same dayes I had my pastimes, a hairy Star appeared for seven dayes in the Region of Heaven, which is under the North Star. It rose about the* 11th *hour of the day, and was clear to be seen in all Lands; The people believed that that Star signified, that* Cæsar's *Soul must be received amongst the immortall Gods, upon which account that Ensign was added to the Image of an head, which presently was consecrated by us in the publick Judicature. In the one side of an old Roman penny,* Cæsar's *Image was to be seen, with these Letters,* Imp: Cæs: Divi; III. Vir: R. R. C. *on the other side the forepart of* Venus *Temple with a Star, and* Cæsar's *Statue*

Statue in his Robes of Inauguration, and the Altar where he was wont to sacrifice, make his Vowes and Controversies, by interposing an Oath, and these Letters were added to it, Divo Jul. Delchamp. add. 2. Plin. c. 25.

CHAP. III.

Of an Ignis Fatuus, Helena, Castor and Pollux.

AN *Ignis Fatuus* useth to be seen about Sepulchres and Gallowses, for it riseth from a birdlimy fat Exhalation. It is lighted by an Antiperistasis of the ayr in the night, and it is carried here and there with the Ayrs motion. It seems to fly from travellers, coming toward it; and to follow those, that run from it. The Cause is in the Ayr; It is driven forward in running, and it drawes them forward; but in flying from it, it followes, and keeps them company: Hence are strangers travelling in so great danger oft times. For they thinking that it is light from Towns, fall into bogs. These 3. following use to appear at Sea. *Pliny l.2, c. 37.* saith, That these lights are dangerous, if they come alone, and sink the ships, and burn them if they fall to the bottoms of their Vessels; but two are successeful, and signs of a prosperous Voyage; for they by their approach drive away, say they, that unhappy and threatning *Helena*. Wherefore they assign that diety to *Castor* and *Pollux*, and call upon them at Sea, making them the tutelar Captains for their Ships. *Act. 28. c. 11. Cardan. de subtilitat. l. 2. of the Star Helena* writes thus; The Star of *Helena* is almost of the same kind, about the Mast of the Ship, which falling, will melt brazen Vessels, a certain sign of shipwrack. For it appears onely in great Tempests, and cannot be driven into the ship but by great force of winds, being a most grosse Exhalation; and burn also; whence it signifies imminent danger.

CHAP. IV.

Of Ignis Lambens.

Ignis Lambens riseth from a thin and fat Exhalation, and cleaves to the hairs and clothes of living Creatures; and if it be of a hotter temperament, it kindles by their sweat. *Virgil* writes some such thing of *Ascanius*, 2. *Aineid.*

> *Behold a shining Crest, was from* Julus *head*
> *Seen to give light, and so the harmlesse flame*
> *Did feel full soft, and on his Temples fed.*

Cardanus

Cardanus, l. de varietat. 10. c. 49. relates to a friend of his, when he came at one a clock at night, laying down his cloak, as he was wont to do, sparks flew forth behind his Hat; but 15 dayes after, he being accused of Witchcraft, at his friends persuasion went into voluntary banishment. Also when *Servius Tullius* was a little boy, and was asleep, a flame shined about his head as they saw it in the house: Which wonder, *Tanaquil*, Wife to *Tarquinius Priscus* admired at, and bred up *Servius* born of a servant Maid, as if he had been her son, and he was elevated to be King, by her, *Valer. Max. l. 1. c. 6. Livy l. 35.* Also one appeared on the head of *L. Martius*, Commander of two Armies, as he made an Oration; the ruine of them, weakned *P.* and *Cn. Scipio* in *Spain*. A Boy of *Jena* pulling off his shirt over the hinder part of his head, he wiped many sparks off with it, *Liban. l. 1. de origin. rerum.* The Countesse of *Caumantin*, whilest her hair was kemb'd in the dark, it seemed to vomit forth fire. *We had* (saith *Scaliger, Exerc. 174.*) *a white War-Horse out of* Calabria, *he in the dark, when he was curried, seemed to sparkle.* They give the cause to be refraction of Light in a polished subject; as in the dewy Ayrs, the drops are as so many Looking-Glasses; so in a hairy head, fat and clammy, and scaly, are hairs and scales: Also in Insects, some fiery matter is said to appear. In the Island *Solebe*, all the flyes every night seem to shine so gallantly, that they represent so many Torches; *Libavius l. c.* A Worm is found like a Star, that shines like a Star in the night: (May be it is the Sea-Star the Chymists promise to extract light from the liquor of it). From the joynts of some Worms in *Hispaniola* Island, a great light shines forth, and glitters like hoar frost. There are others that will give light 100 paces, and that not from their whole body, but only from their joynts. In *Spain*, of the New World, there is said to be a Fly like a Beetle for magnitude, with it wings in a sheath, called *Cocujus*, whose Eyes enlighten the night, that it serves for a wax Candle to give light to those that walk abroad, and for a Lamp in their Chambers to read and write by; and that not onely whilest they live, but after they are dead. Some make themselves little ropes of those Candles, and tie them to their necks, to give them light as they travel. The cause is not in *Ignis Lambens*, but it lyes in the humours of these Creatures; and is done by way of repurcussion, some are thought to have some light shining within them. Truly, Gloworms shut up in your fist, give light if you look through a chink in the darkest night. *Reischius* saith, That Fish in their scales comprehend some fiery parts, and by that they shine. The Dolphin seems to confirm this; for it seems gilded in the night, yet is it blew on the back, green on the sides, white on the belly, *Reischius in Margarit. Philoso.*

CHAP.

CHAP. V.

Of Lightning, Thunder, and Thunder-bolts.

HE that would neerly understand the breeding of Thunder must consult with *Chymists*, for so oft as a part of Salt-Peter and brimstone meet, there is made a great noise; and we shall say that thundring Gold is carried with a greater force. Also it is well known that if a mixture be made of Niter, Brimstone, Quicklime, and Bitumen, that it will kindle by powring on any moisture; and so it is here, for when the brimstony and nitrous Vapours in Summer-time, are carried upwards, by heat of the Sun, especially the Southern wind being quiet, they are united and condensed by the opposite winds, and are kindled by a peculiar antiperistasis; hence comes the sound and lightning. Histories write that it hath been heard in a cleare Sky. *Senec. natural. l. 2. cap. 30. Ætna* somtimes hath abounded with great fire, and hath cast out a wonderfull quantity of burning Sand, the day was hid in dust, and sudden night frighted the people. They say that at that time there were great thunder claps and noises in the Sky, which were made by the concourse of dry things, and not of the Clouds; for it is likely in so clear weather, that there were none. The Thunder-bolt oft times is carried into the Earth, because it is cast forth of the Cloud with great violence, and is made of a fast and well compacted matter, yet *Pliny, l. 2. c. 55.* saith, that it never strikes above five foot deep into the Earth. The effects of it are wonderful; vessells of water are drank up, the cover being untouched, and no other token being left: Gold, Brasse, Silver have been melted within, and the bags no ways burnd, nor so much as the Seal of Wax defaced; *Pliny, l. 2. c. 51. Lucius Scipio* proved that, by Gold he had in a Chest of *Osiers. Marcia* a Queen of the *Romans* was Thunder-stricken, when she was great with Child, she had no hurt at all, only the Child was killed. The cause is put in rarity and thicknesse; that penetrates more easy, this because it penetrates with more difficulty doth more harm. *Aristotle, 3. Meteorolog. c. 1.* The wine somtimes stands stil the vessel being broken, the cause is because the heat of the thunder, thickneth the outward parts of the Wine, that the wine seems to stand, as shut up in a skin; *Sennert. l. 4. Epitom. c. 2.* but this hardnesse will not last 3. dayes, *Seneca quæst. natural. l. 2. c. 5.* That is most admirable which *Meurerus in Comment. Meteorolog.* reports that a certain Minister was so suddenly taken away out of the sight of Men, in the way that men passe from *Lipsia* to *Torga*, that he was never seen again. Those that shall be presently striken, are so stupefied, that they neither heare the Thunder, nor the greatest claps of it. That, in the German Warrs, hapned to *Severus* Master of the Horse, *Julian* being *Emperour*. First he was stiffe, and then lither, death being at hand; *Pliny* writes that it will not touch the Bay-Tree, the Sea Calf, the Eagle; *Rhodiginus* adds, the fig-Tree: and saith it is by reason

reason of its bitternesse, *Rhodig. Antig. lect. l. 3. c. 29.* Therefore *Tiberius Cæsar*, as *Suetonius* saith in his life, fearing thunder, when the Skyes were troubled, wore a Crown of Bays upon his head, and for this reason saith *Columella*, when a Hen sits they put Bay boughs under her, Therefore they were wont to make the Emperours Tents of Sea Calfs Skins. And *Suetonius* writes that *Augustus* was so fearfull of Thunder, and Lightning that he allwaies carried the same with him. *Severus* the Emperour had a litter made of the same matter for the same purpose: yet *Vicomercatus, ad 3. Meteoror, c. 10.* relates that the Bay Tree is somtimes stricken from Heaven, and *Conimbricense* thinks this freedome it hath to be but imaginary, but only by an instinct of nature, they foreshew Thunder. I need not speak much of the Thunder-bolt, kept in houses, of hearb, and Candles, at the more solemn feasts purged with holy water, and of the ringing of Bells; who sees not but that these things are superstitious. Some of them say, (*Remig. l. 1. dæmonol. c. 26*), that ringing of Bells is unefectuall and uselesse, if any one of them when it is purged, beare the name of the Priests Concubine. For if that sound do rarify the Ayre, (which yet spoken absolutely is false; for it neither dissipates the Clouds, that are neerer to us, nor doth it fly right upwards, but in many places it comes forth obliquely by the Windows, nor doth it come to the Cloud) it were better that only the great Guns should be shot off, and only the greatest Bells Rung. Constant observation shews that Dogs, Cats, and Goats are most obnoxious to be Thunder struck. Hence it is that if a Dog be by a man in an open field, he will be frighted and lye between his feet, *Cl. Bortholinus* casts the cause of it upon the Vapours breathing forth of these Creatures bodys, which as a known matter and nutriment, the Vapours for thunder follow, especially if these Creatures be abroad, that they may be freely carried into the open Ayre; Hence it is that Cats are often stricken in the entry, and who knows not that the Dogs and Goats smell strong? And Cats send out such Plenty of Vapours by their pores that some men have fainted at their being present, and the more noble Horses, if they be hid in the Coach, will sweat extreamly, as experience teacheth. Thunder seldom hapneth in the Winter. For but very few or allmost no hot exhalations are lifted up, yet *Curtius, l. 8. de Alex.* mentioneth that in the time of *Alexander*, *There was saith he allmost a continuall Thunder, and the Thunder bolts seemed to fall in divers places, then suddenly a shore of hayle was poured forth like a Torrent, and force of cold force this showre into Ice*; *Olaus, l. 21. c. 6.* thinks that they are more vehement in Northern Climates, forthby kill Men; and in the Kingdom of *Mongall* in *Tartary* they fall mingled with Snow; In *Brasile* Thunder bolts fall but seldome, but such lightnings that they seem lighter than the Sun; *Joseph Acosta, Anno, 1560.* In the time of *Marcus Antoninus* the Philosopher, we read that the Enemy was stricken with Thunder at the prayers of the Christian Souldiers, whence the Christian Legion was called the Thundring Legion, presently (saith the Emperour of them in *Epist.*) *as they lay upon their Faces and prayed to*

a God I know not, a cold shower fell upon us; but upon our Enemies, hail mingled with thunder, that we found immediately that the hand of the mighty God assisted us.

CHAP. VI.

Of the Winds.

Artic. 1. *Of the Originall of Winds.*

ARistot. 2. *Meteor. c.* 4. saith, That the Sun is the cause of the winds, by drawing up the moysture that is upon the surface of the Earth, and by heating, doth dry the Earth it self. *Lydiat* likes not this opinion; For the Earth moystned being dryed, affords but little matter for winds. For the Earth drinks in no more rain, than may quench its thirst, and which it may change into a dry nature, from whence comes no Exhalation of the same allowance, much goes to rain, which is no small part of it. What then shall be left for the vast winds? wherefore, inward heat is pleaded for. And truly, in Winter the Earth sends forth a smoky exhalation. In the Southern parts, Winds arise from Snow; A breath riseth from Lakes and standing Pools; and storms from the Sea, though it be calm: whence is this, but that the Earth breathes out vapours, which break forth through the depth of waters. The Chymical Instrument will show this, which they use for bellowes, *Sennert. l.* 4. *Epitom. c.* 3. A Globe is made of Copper, that it may be fill'd with water, and then shut; a pipe with a small hole is made of one side; the Glob fill'd with water is set to the fire, and the pipe for bellowes is set to another. As the Globe growes hot, and the water rarifies, the Ayr continually breathes forth, and serves for bellows till all the water be consumed. Winds are then bred, which heat burns the moyst Earth. The Sun by drying openeth the pores, and the Ayr helps by its motion. It it rise from the Sea, the Sea at first calm making a muttring noise, signifies that an exhalation that is matter for wind, is already then bred in the bowels of it; some fishes sport, some fasten themselves to rocks: then the Sea swelling a little, shewes that the exhalation newly bred, seeks a passage forth; then when it fails, it shews it is come to the superficies, but in small quantity; then the blasts breaking forth with all their force, lift up the waves before them, and cause Winds and Tempests.

Artic. 2. *Of the Kinds and Effects of Winds.*

THere are many kinds of Winds, which were chiefly found out by Navigation, and the operations of them according to the difference of their blasts and properties. The North-East wind drawes clowds to it. *Circeius* a Southern wind, hinders, that the North wind be not mingled with the smell of plants; and the force of it is so great, that it will overthrow an armed man, and lift ships up from the water into the Ayr, and carry away Windmills with the stones, house and men, to some other place, *Pliny l.* 2. *c.* 47. *Gel. l.* 2. *c.* 22. *Olaus l.* 1. *c.* 4. and 2. *c.* 3. There is a whirlwind that causeth such Tempests to those that sail out of the Country of *China* to *Japan*, that it is a miracle to escape shipwrack. In the Country of St. *Vincent* it roots up Woods; in *Hispaniola* it will take up men and carry them a furlong. If they arise in the Island of *Ormuth*, they kill those they meet, with heat; and they part the flesh of those that are killed from the bones, as boyling water doth. To avoid the danger, they hide themselves in the water up to the head, *Ovetan l.* 6. *Polus l.* 1. *c.* 5. Women are wonderfully prone to lust when their privities are obvious to the South wind; but the North wind is said to be fit for generation; whence it is that some believe it will raise men dying with its blast, *Rhodigin l.* 54. *c.* 4. & *l.* 15. *c.* 23.

In *Lesbos* at *Mytilene*, when the South wind blowes, men are sick; they cough when the North-west wind blowes; the North wind makes them well again. In *Tercera* it eats Iron and stones, *Bertius in Geograph.* Amongst the rest are the *Etesia*, that are very moderate winds, every year two dayes after the rising of the dog-star they are wont to blow 40 dayes. They temper the heat with their blast, and cool the Summer, and defend us from the burthen of the hot moneths. They rise at 3. of the clock of the day, (thence they are called sleepy winds,) and they cease at night. It is likely they are bred by great heat, melting the Snow that yet remains in the Northern parts. It is credible, that the Earth being freed from Snow, and uncovered, they will blow the freer.

The Ancients sacrificed to the winds to please them. *Herodotus* saith, That a Temple in *Ilissum* was built to *Boreas*; They call'd them at *Athens Boreasmi*, who kept the Feasts of *Boreas*. We believe *P. Victor*, that at *Rome* there was a Temple for Tempest, *Rhodigin. l.* 20. *c.* 25.

CHAP. VII.

Of the Earth-quake.

Artic. 1. *Of the rising of an Earthquake.*

THe Ancients believed, that the Earth moved by waters fluctuating in the Caves of the Earth. Whence they called *Neptune*, Earth-shaker and mover, *Gell. l. 2. c. 28.* Others thought, the wind in the surface of the Earth returning into the hollow caves of it, did shake it. Others again, that the Sun kept the vapours within the ground, and they seeking passage to come forth, did wander where they could, when they found none. Reason and Experience are against it. There is in the West part of *Spain* a Mountain of wonderfull height, with many hollow Caves, *Scalig. Exerc.* 38. waters fall down in them with so great noise, that they are heard five miles, yet there is no Earthquake there; nor yet is the wind or Ayr that goes under, very great; it is dispersed in the largenesse of the Channels, and the diverticles it finds, going farther, it is stopt: Mineral operations shew this. For they make mighty bellowes to draw the ayr, lest they should be choked for want of it. The contest of winds doth nothing, for that rather tends to the sides, or flyes upwards by its leightnesse; and at the first hindrance, they fly from the Earth like a whirlwind. It is uncertain whether the Sea can stop the passages, there are seldom any such great Caves by the Sea; nor can that go in at once, but it will be thrust back again: The Sun cannot more easily exercise its force upon the Earth, and beget an Exhalation, than he can bring it forth being begotten; for the Sun beams operate not but by resistance. Whilest they heat and dry, they open the same, because exhalations ascend more strongly to that place which is neer; One, in respect of continuity, followes another; but howsoever they enter in, they easily come out of the Earth, and more easily than they can shake it; for in Mines where the powder finds but a chink, when it is fired, it is lost labour.

Wherefore Exhalation bred from fire under the Earth, and shut up in the bowels of the Earth, causeth an Earthquake. And that is apparent by this. For before an Earthquake, Well-waters will not onely boyl, but be more troubled, and brimstony vapours come forth. From whence? The like vapours are tossed in the bowels of the Earth, *Pliny l. 2.*

Artic. 2.

Artic. 2. *Of the place time and effects of an Earth-quake.*

THose places are subject to Earth-quakes, which can easily take in winds. Solid places will not admit it; sandy places mixed with lime do easily discuss it, they want receptacles for winds; Champion places have no Caves. Yet the whole Earth is never shaken; for the Vapours included have no proportion to the Globe of the Earth. If it should happen it must be ascribed to divine power; which Nature would seem to challenge to her self. If you consider the duration, it differs as the resistance is; few Vapours are sooner discussed, many last longer, and rage a greater time; *Senec. natural. l. 6. c. 13.* *Campania* trembled many dayes; *Livy* writes that at that time, when *D. Cornelia* and *Q. Minucius* neer *Consuls*, the Earth-quakes were so frequent, that men were weary not only of it, but of all business. The same Author sayes that an Earth-quake lasted 40 days; others say one hath lasted two yeares, and returned again and again; *Livy, l. 44. & l. 45.* *Aristot. l. 2. Meteor. c. 8.* *Plin. l. 2. c. 82.* Such is the condition of the effects of it, that those that hear of it, will be astonished at it, and those that see it dye. *Oft times it doth not devour Houses, Cities, or whole families only; but whole Nations and Countries: somtimes the Earth falls upon them; somtimes it takes them into its deep jaws and leaves not so much whereby it may appear, that what is not now, ever was.* *Seneca, L. 6. natur. c. 1.* The ground covers somtimes the most noble Cities, without leaving any mark of their former being; whereas the great hollow Caves in the Earth are forced and shaken with winds and fall down, oft times in the Sea, a hollow pit opening drinks up the waters, on the Land Rivers, that both fish and shipping sink into it. On the other side, the Earth lifted up into a high tumour, hath caused Mountains on land, and Islands at Sea; somtimes the course of Rivers hath been changed, that hilly ground having been removed on that side that they formerly ran. Histories are full of these calamities. The last yeare of *Nero*, fields and Olive Trees, that the high way passed between, in the Country of the *Marrucinum* were transported to the other side. *L. Marcius*, and *Sextus Julius* being *Consuls*, in the Country of the *Matipenses*, two Mountains fell together with a mighty noise, *Plin. l. 2. and l. 16. c. 40.* Many Villages were then beaten down, and Cattel killed. In *Parthia*, there is a place called *Ragai* from the clifts, where many Towns, and Villages 2000, were overwhelmed. At *Cajeta* in *Italy*, there is a Mountain toward the South, a part whereof an Earthquake so divided, that one would believe the division was made by the art of Man, the Sea runs under it with a great noise. *Agricol. in reb. quæ effluxerunt ex terra.* The Houses of *Helice* and *Bura* two Towns in the Sinus of *Corinth*, did appeare in the Sea. In the Island *Ænania*, a Town was so taken in, that there was no appearance of it left. Not far from *Ptolemais*, the Waves of the Sea were carried into the deep, and so lifted up themselves, that they appeared like a great Mountain, and afterwards they

they were carryed to the land, and drownd the Army of *Tryphon*. When *Cneius Octavius* and *C. Scribonius* were Consuls, the River at *Velia* brake down the bridges, and threw the banks of the River into the waters, drove away the stones that were in the Market place; in Town and Field it shook the Churches, which a few days after fell down. By an Earthquake, the City of *Lacedemon* fell all down, when the Mountain *Taygetus* was broken. In the Warr of *Mithridates*, at *Apamea* a City of *Phrygia*, new Lakes, Pools, Fountains and Rivers came forth, many of the old ones being sucke in, and amongst these one was salt, that put forth an infinite plenty of Fish and Oysters, and yet *Apamea* is far distant from the Sea, *Nicolaus Damascenus*. During the second *Punick* Warr, there were such great Earthquakes, at *Liguria*, and the parts neer unto it, so far as the Sea of *Tyrrhenum*, that the Rivers ran the contrary ways. The most wonderfull Earthquake was in *Hereford* here in England, in the year of Grace, after the 15 century, 71, the 12 of the Calends of March at six a Clock at night the Earth parted in the Eastern part of the County, and a Mountain with a Rock under it, (first with a wonderfull noise and roaring, that the neighbour parts might hear it) as if it had been raised out of a long sleep, lifted up it self, and ascended into an upper place, leaving its deep Chamber, and it carryed with it the Trees that grew upon it, the folds and flocks of sheep: some of the Trees lay overwhelmed with the Earth, others were joyned to the Mountain, and grew there as well as if they had been there planted at first. It left the place from whence it came with a great pit; 140 foot broad, and 80 els long. The whole field was about twenty Acres It overthrew a Chappel in its way; It carryed a Peare Tree that was planted in the Church-yard from West to East, and with the same force it thrust forward high ways, Paths, Hedges with Trees that grew in them, It made pasture ground of arable, and arable again of pasture. It rolled against the upper ground, and being driven with greater violence, it heaped it up into a high Mountain; so when it had passed up and down from Saturday evening, till Munday noon, it rested quiet. This is *Cambdens* description of it. The Philosophers call this kind of Earthquake *Brasmatia*. To this may be referred the Earthquake in *Apulia*, *Anno*. 1627, it was open above 200 miles, and overthrow great part of the City, St. *Severus*, *Sarra*, *Capreola*, *Dragonora*, *Procina* of St. *Lyander*; it laid hold on, *Assolum*, *Bovinium*, *Troia*, *Andria*, *Tranium*, *Foggita*, *Campus Marinus*, *Remitium*, *Itistonium*, *Franca*, *Villa*, *Asanum*, *Consilinum*, &c: Also it killed 17 thousand Men. It is certain that it brings with it not only present mischiefs, but it is a forerunner of mischiefs to follow, *Rome* had never any Earth-quake that did not foreshew, some future events *Pliny*, *l.* 2. *c.* 64. *Socrates* saith it foretells of discords in religion: wherefore what the *Romans* did of former times by appointing holydays by injunction let us do the same. They might feare lest by naming one God for an other, they might induce the people to a false religion: but we know that God, by whose power the Earth is shaken.

CHAP.

CHAP. VIII.

Of Rain.

THere is a great difference in respect of the abundance of Rain, in time and other circumstances; and very wonderfull: no lesse variety than there is in dayes; and oft-times greater, if you respect extraordinary things. In *Ahab's* days it rained not for 3. years. It never rains in *Cyrenica*: The harvest there is onely that which for the hasty ripening of things by reason of the Sun, or Ayr, or Winds, useth to come to passe. It is reported, that from sowing of Seed it is but 30 days to the harvest, *Maiolus Colloq.* 1. About *Uraba* a City of the New World; it rains most part of the year, and therefore the drops hang always on the trees, *Hispal.* p. 5. *c.* 26. It never rains in Winter amongst the *Tartars*, but oft in Summer. But in the Country of *Mexico* the drops fall with such force, that they are said to kill men: If you consider the substance, it is common water, that is the matter of it; yet examples shew, that it hath been of another kind oft times. It rained blood sometimes in *Borussia*, *Thuan. l.* 27. in the Island *Pelagia*, gold; in *Lucania*, iron, before the *Parthian* War in which *Crassus* was slain, *Ammian* l. 17. It rained Corn in *Carinthia* for two hours, above two miles space, of which they made bread, *Thuan. l.* 5. *de Anno* 1548. Stones fell with rain, as big as Hens eggs, wherein were pictures of mens countenances, and Diadems, *Lintdr. ad fascic. Anno* 1496. Ashes rained in the time of *Leo*, which lay a little hands heighth upon the tyles, *Niceph. l.* 15. *c.* 20. In the Wood *Neuholen*, they say that a great piece of Iron fell out of the Ayr, like to the drosse, and it weighed many pounds, so that it was too heavy to carry, and no Cart could carry it, because the wayes were unpassible, *Agricola observ. Metal. c.* 8. In *Egypt* it frequently rains very small drops, Mice breed of them, that use to gnaw and cut the ears of Corn, *Ælian l.* 6. *c.* 40. Also in *Thebais*, when it rains with hail, Mice are said to appear in the earth, half mud, half flesh, *Ælian l.* 2. *c.* 56. But that is most wonderful, if it be not a Fable, that *Olaus l.* 18. and *Ziglerus* hath in *Norway*, concerning the Northern Creatures. And from them *Scaliger* hath it, *Exerc.* 192. *Sect.* 3. *Lemer bestiolæ*. *There are four-footed Creatures as big as field Mice, of a divers coloured skin, they fall in tempests and showers; we know not whether they come from the rembte Islands, or from fœculent clowds. Assoon as they fall, you shall find herbs in their bowels, raw, not digested. These like Locusts eat up all green things; this plague continues till green herbs come again. They come together like Swallows departing; they either dye at the set time, or are devoured by* (Lesrat) *other little Beasts. We were told by our Master, the famous Doctor*, Menelaus Vinsenius, *Doctor of Physick, and Professor in the University of* Frisia, *that it rained Frogs in* Ameland, *which admits of no Frogs*. To conclude, in *Velaunium*, there rained from Heaven so many Caterpillars in one night, that they were forced for two dayes to burn straw to kill them

creeping

creeping in their houses; all the men and women there, were hardly sufficient to perform this work, *Dalechamp, ad l.2. Pliny, c. 56. Sennertus* thinks, that Creatures that can breed of putrisaction, are bred either of some matter watred by rain, or else they lying hid in the bowels of the Earth, are called forth; but more perfect Creatures, and stones come another way: yet he thinks that many of these ought to be referred to superiour Causes.

CHAP. IX.

Of Snow and Hail.

IN the Winter there is an infinite abundance of Snow with us, but there is none in the deep Sea, *Pliny* l. 2. c. 103. Nor is there any such in *Æthiopia, Alvarez. de reb. Æthiop.* But it is greater in the North. Sometimes great Trees being in the way, it all sticks upon the boughes, and the Ayr stops it that it can fall no lower, making as it were a vaulted Gallery. It is said to have beaten down a City, being on the top of the Mountains of *Dofrinium*, where it first was like a ball, but at last like a mighty round Mountain, *Olaus l. 59. c. 15.* and *l. 2. c. 13.* The tops of Mount *Caucasus* have scarce any lesse, for they cannot be come at in Winter; especially in *Cambisena* the quantity is so great, that whole Troops of men are overthrown by it, *Strabo l. 11.* The *Armenians* are in the same condition; for those that passe over the Mountains, are suddenly covered with clots of Snow, that they cannot be seen, and that in the fierce Winter; *Rhodigin. l. 18. c. 29.* In *Tartary* it comes on also in Summer: mighty cold, vast Snowes, all are removed by the wind, *Hispal.* p. 4. c. 23. In the same, the Champion places of *Pamer* do sustain so great cold, that it will put out the fire, for it will give no light, nor can any thing be boyled with it, *Polus l. 2. c. 28.* In *Moscovia*, where water runs out of a high hill, it is congealed before it touch ground, *Surius ad Anno* 1501. In *Armenia* they are red, which proceeds from the places that abound with *Minium*, and by the force of its exhalations they are colouted.

Nor is this against reason; for plenty of bloods yields a blood-coloured dew. *Homer* shews that, at *Troy*, (when he speaks of bloody drops of dew) that of it sprang hairy rough red Creatures; *Apollonius* calls them Worms; *Theophanes*, Mountain worms. There is a liquour in them which the people love to drink, *Eustath. in Homer, Aristot. 5. Anim.* Hail is akin to Snow, whereof we have nothing to say, except of its greatnesse; for in the time of *Valens* it fell like stones of unusual greatnesse, at *Constantinople*, *Socrates histor. Eccles. l. 4. c. 10.* When *Alaricus* took the City, it was greater than stones that can be handled, and was about 8. pounds in weight, *Maiolus in Canicul.* In *France*, when *Paschal* was Pope, one piece fell down that was 12 foot long,

long, *Bonfinius.* At *Augustodanum*, one 16 foot long, 7 broad, and 2 foot high, *Segebertus.* And no lesse fell in the time of *Bergoma*; for it was compared to an Ostrich Egg, and was 12 inches about, *Bonfinius.* They say, in the same year at *Bommel* in *Gelderland* there fell one stone was 3 pounds weight, on the 12th of *June*; sometimes the forms of it have been wonderful. *Anno* 1395 it had the Images of men, with beards, of women with Kerchers and hair. At *Cremona*, Anno 1240, it had the sign of the crosse. But we are often deceived, and imagine what is not so. Yet the Works of God are wonderfull.

CHAP. X.

Of Dew, Manna, and Honey.

DEw comes from a thin vapour, resolved into water by the cold of the night. It is first found in the light and thick leaves and flowers of plants; and sometimes it is scarce lift up above two Cubits high. Some say it was the daughter of *Jupiter* and the Moon; for as *Plutarch* saith, *The full Moon makes plenty of Dew.* And therefore dogs in the full Moons, can sent out things by the foot worst, because the cold dew takes away the sent, that they cannot smell them; wherefore it is hard to hunt well in the Spring time. *Plutarch* saith, that fat women were wont to gather dew with cloaths or soft skins which they used, to make them lean, (ἐν φυσικαῖς αἰτίαις.) *Christophorus Vega* writes, That Manna is made by some little Bees like thick Gnats, from whom sitting by swarms upon Trees, sweat as it were drops from them. *Sennertus l. 4. c. 8.* thinks, that they are rather drawn thither by the sweetnesse of the Manna, and that they make it not. The Learned make a question, whether the Jews Manna was the same with ours? Many things agree, but in this they differ, that theirs, ground in a mill, or bruised in a mortar, was fit to make wafers. If it be not prevented, it will melt with any Sun; for an Easterly Sun will melt it. We read that it is used for Sugar with water alone to drink, and to quench ones thirst; amongst those Shepherds that frequent the desarts of *Targa, Scalig. Exerc.* 164. Manna is of kin to to honey. This comes out of the Ayr, especially at the rising of the Stars; it is made especially when the Dog-star shines; nor doth it appear before the *Pleiades* shine in the morning, *Plin. l. 11. c. 12.* Therefore then in the morning early the leaves of Trees are bedewed with honey; and if any in the morning be in the open ayr, they shall perceive their clothes anointed with the Liquour, and their hair glewed together. This dow is afterwards collected by Bees, it is altered by them in little bladders: It is put up in little Cells, like pure liquor, in which afterwards it grows hot, and is concocted with natural heat. The 20th day it growes thick, then is it covered with a thin membrane which growes together by its frothing heat, *Pliny l. eis. c. 13.*

c. 13. Also that it is made by Wasps, *Pliny* teacheth out of *Aristotle*. The *Spanish* Navigations confirm, that it is made of some *Molucca* flies in Trees, which are lesse than Ants. *Lithuania* and *Moscovia* have great plenty. The story is old, concerning a Country-man that fell into a hollow Tree of honey, and a Bear drew him forth. We have heard that concerning honey, that *Aristotle* speaks of grated wine, for it growes so thick, that it must be shaved off to drink it. Amongst the *Troglodites* at *Belgada*, honey is as white as Snow, and hard as a stone, *Scaliger, Exerc.* 191. *S.* 1. It is so solid in *Calicut*, that they carry it it in baskets. Many things are preserved by honey, and many things die by it; for the milky humour in it is not weak; wherefore that remaining uncorrupt, corrupts others: Wallnuts keep their nature in it, for by their unctuous quality they resist their peculiar humidity, but Figs, Peaches, Pears, Apples, corrupt in it, *Scaliger Exerc.* 170.

CHAP. XI.

Of the Rainbow.

THe Poets feigned the Rainbow to be Daughter of *Thaumas*. The Ancients thought that she drew water by her two horns let down toward the Earth. Hence *Virgil*, *Georgic.* ver. 138.

——and the great Bowe
Drank——

But *Propertius*. L. 3.

Why doth the Purple Bowe Rain-water drink?

The colours are so exact, that no Painter can equal them. The blew colour is said to shew that the Flood is past, but the fiery colour shews that which is yet to come *Strabo. citant. Rhodigin.* *Albertus* thinks that 3, and somtimes more may be made in it. When it is made at noon, we cannot see it, for no man ever saw a Rain-bow beyond 3, miles. It is never made when the Cloud ascends, but allwaies as it goes downward, for so it causeth no dew, but when it falls away *Rhodigin, l.* 22. *l.* 12. *c.* 7. *Celius* denies that it can be made by the Moon beams. *Scaliger, exerc.* 80. *s.* 12. approves it. *In the Island of St. Thomas, saith he, if a shower went before, the Moon will make a Rain-bow, the colour of it will be like a whitish Cloud.* *Combachius*, *Anno* 1609, in *June* saw such a one at *Oxford*. But *Anno*, 1599, at Midsummer after mighty Lightning at *Wittenburg*, *Sennertus, l.* 4. *Epitom. c.* 9. As for the influence, some say that Plants smell the sweeter by the Rainbows hanging over them, *Scaliger, exerc.* 81. *s.* 7. *Cardanus* condemns this, yet it is not to be laught at, for *Scaliger* saw a Cloud come down as low as the clift of a hill, and *Aristot*, affirms it, of those especially that naturally send forth the sweetest flowers. If it be in the

the Morning it shews a tempest; but on in the Evening, fair weather, as Mariners and Husband-men have observed. The cause of the latter is by reason of the Cloud that hath unloaded itself of water; the former is because of the plenty that was collected by the moisture of the night. These things for recreation are alleged by *Scaliger*, *Exerc.* 81, *s.* 12. *But it is no light matter to give certain reasons for things that are uncertain.*

CHAP. XII.

Of some admirable Meteors.

THose things that happen extraordinarily either in the Ayre neer us, or in the higher Heaven of the Stars, by their continuall circumrotations, at Gods command, are rankt in the number of wonders. Not only of old time, but even of latter times, variety hath been observed. God and the holy Angells make some of them, and the evill Angells make the rest. *Casparus Peucerus in Theratoscopia. Anno*, 1532, not far from *Oenipons* wonderfull sights were seen. The first was a Camel that was compassed round with flame, the other was a Wolf vomiting fire, and hedg'd in with a ring of flame; A Lyon followed this; and an Armed Man, standing in the entring of the Mountain, did gently stroke his Mane, and he seemed again to flatter him. These pictures were forerunners of the death of *John Duke* of *Saxony* and Elector: first there was a Tree withered and overturn'd, then there was a Knight on Horse-back prepared, carrying the Tree with the boughs lopt off, then there was a great black Crosse in a thick Cloud. At length a horrible Thunder bolt was seen to be cast out of it, with a wonderfull noise. *Anno*, 1534, the 3d day of *July*, in the Town *Schleswich*, at noon in a clear Sky, Lyons were seen in the Ayre, coming apace from divers parts to fight. An Armed Knight toke their parts, shaking his spear. There lay not far from the Knight a Mans head without a body, wearing an Emperiall Crown, a little while after a Bores bristly head was seen, and two Dragons spitting fire. Lastly there appeared the Image of one most spacious City scituate by a Lake, and it was beseiged with a Navy and Land-forces. On the top of this was a bloody Crosse, by little, and little turn'd into black. There came forth an other Knight on Horsback, burning with a fiery colour, with an imperial Crown on his head, a horse followed him that had no Rider. Then in a large plain there appeared two burning Forts, neer to a high Mountain, where there was a great Eagle, that hid half his body behind the side of the Mountain: there appeared some young Eagls, very compleat of a white colour. Also the head of a sleeping Lyon crownd with a Crown, and a dunghill Cock with his bill beaking and digging his head, till it fell loose from his body, and vanished; the body remaining lay visible. There were other Lyons present, and by the Bores head, a Unicorn by degrees turning him self against the Dragon; and many other Creatures of extraordinary figures,

and greatnesse. The Fort upon a high rock compassed in with two Armies, burned; and the whole Country seemed full of many Towns, Forts, and Villages. But presently the whole Country where they stood was consumed with fire, and a most large Lake overwhelmed the ruines of this vast Country, nothing but the Towers appearing in that place, where that great City stood before. At the bank of this great Lake stood a Camel as if he drank.

But *Anno* 1545, the next day after Whitsontide, these Images were seen in *Silesia*; A Bear led an Army well appointed from the East; an armed Lion met him with his Forces; between both Armies a most clear Star appeared, presently they met and fought stoutly, that blood seemed to drop from their wounds, and their bodies to fall down dead. As they fought, an Eagle flew from a high rock, and waved her self over the Forces of the Lion with her wings. The fight being ended, the Lion shined amongst his Armies; but there was no sign of the Bear; but they were all dead carcases, where the other Army stood, and very venerable old men with their grey heads stood by them. The battel ended, the Lion retreated with his Army to the West; and when he was gone a little forward, a certain Souldier riding on a white horse very well adorn'd, return'd from the Forces to the place of the fight; and upon that horse he set a young Souldier that stood there in Armour; and accompanying him riding toward the East, he vanished with the rest of the Apparitions. But what speak I of old things? our Age hath seen wonderful things, even this year. For in 1627. two Armies were seen to fight in *Pomerania*, the Northern Apparition became Victor. A fiery beam followed this, *Mercurius Gallobelgicus*. But *Anno* 1629, in March, in *Misnia* two Armies met in the lower Region of the Ayr, they were so framed out of the Clowd, that their faces and countenances might be seen. The lesser Army got the victory, and put the greater to flight. It may be, these are fore-runners of things hereafter; which that they may happen, we heartily wish; and with this wish, we will conclude this Third *Classis*. Oh, oh! that it might be so.

The End of the Third Classis.

THE

THE DESCRIPTION OF Wonders in Nature.

The Fourth Classis.

Wherein are contained the Wonders of Minerals.

THis is an Argument of Wealth, and thought to be true Glory; to possesse that which may all presently perish. Nor doth this suffice us, that we drink in a trumpet of Jewels, and we interweave our cups with Emeralds; and we delight to hold the *Indies* for our drunkennesse, and gold is now but an addition, *Plin. l. 33. Histor. natural. in pref.*

CHAP. I.

Of Things digged up, in generall.

HItherto we spake of things elevated into the Superiour world; Now we shall consider of things under the Earth. Which because they are brought forth by mans labour, the Philosophers called them *Fossilia*, or things dug out, including them under the names of Earths, Juices, Stones, Metals. They think they are bred by subterraneal heat. Others think, that they were at first created by God, and do increase by a seminal principle. And indeed, it is not against Truth, that Metals are made of some vapours.

Avicenna saith, That more than once bodies of brasse, like to Arrows with forked heads, have fallen down in clear day, in *Persia*.

 But

But in *Spain* a Masse of stone with Veins of mettal fell out of the Skys, *Lydiat de fontib. 6. c. 6.* The latter is confirmed by the testimony of some Writers. For the Gold of *Corbachium* in *Westphalia*, every four year grows and springs again in heaps. In *Sclavonia* a vein of Lead every 40. yeares is changed into Silver. A dry scale of Brasse into Gold, in one yeare. Iron in *Silesia* at *Saganum* is digged a new, every tenth yeare. In *Sweden*, red fenny mud, laid one yeare in the open Sun, becomes good Iron; The Mountain of *Fessula* in *Hetruria* hath lead-stones, which if they be cut out, will in a short time grow again; *Cæsalpinus, l. 2. de metal. c. 6.* relates of Iron that is dug up in *Ilva*, an Island of the *Tyrrhene* Sea, that all the Earth that wanted Mettal, that is dug up with the Iron will the next time they dig, be turned into good Iron, Lastly in the *Indies*, there is the Mountain *Oromenus*, where salt is cut out, as out of quarries, and it grows again, *Cæsalpin, l. 1. de Metal. c. 1.* But that is wonderfull which *Garzias ab horto* writes of the Diamant, *Simpl, India, l. 1. c. 47. The Adamants*, saith he, *that lye deep in the bowells of the Earth, and require many yeares to their perfection, are bred almost on the surface of the ground, and are ready in 2 or 3 yeares: for dig this yeare but a cubit deep in the quarrie, and you shall find Diamonds; dig there after two yeares, and you shall find Diamonds again. But how that should be, it is hard to say; yet no man can speak with more care, than Nature can work, when especially she is prodigall, and sports her self in the variety of things, Pliny, l. 21. præfat.* Yet it doth not seem unreasonable that the Vapour should congele with a fit matter, and that which is not well concocted to put off to another time, and so to perpetuate the generation. Truly the Flux of Veins hath somthing proportionable to vegetable nature; and the relation of a Physitian of *Friberg*, that, in the Lungs of such as use to dig in Mines, their bodies being opened when they are dead, you shall find the same Mettals grown hard, wherein they laboured being alive (*Sennertus lib de consensu et diss. Chymicorum et Galenicorum*) seems to intimate as much.

CHAP. II.

Of Marle and Potters-Earth.

Marle is a thick fat Earth, and yet is somtimes so fluxible and white, that it seems like to marrow in the bones of living Creatures. Of times it is hard, and being drank it stops the Veins that bleed at the mouth, and hath the same force that *Terra Samia* hath; It is dug up in many places, especially amongst the *Saxons*, At *Gossaria* there are two sorts, one is Ash-coloured, and the other is whiter, of which are made forms, wherein your Image makers make their Pictures they cast. Sharp cold will divide them both into very thin plates, though the former, before the cold have seazed upon it, consists of thick crusts. *Potters Earth* is thick, soft, it is hard to come by: works are made of fat and thick matter, that the force of fire will not quickly break. Of the same are made Vessels that will neither drink up, nor consume liquor: wherein water that parts Gold from Silver is both made and kept. Potters Vessells have ennobled many Countries: as *Asia*, by those were made at *Pergamus*, those that were made at *Tralleis*. *Terra Coa*, and *Samia* are not unknown; and *Aretina* is wonderfull, *Plin. l. 5. c. 13. Noriberga* sends earthen Furnaces, wherein Gare are and Mettals are boiled. Of clay digged up at the Fort of *Rottingberg*, are made purging Vessels wherein *Alchymy* is made. These being cast out of the fire with the brasse do not break, but are drawn and wound like burning Glasse. *Agricola de illis quæ effodiuntur ex terra.*

CHAP. III.

Of Terra Lemnia, Armenia, and Silestack.

Terra Lemnia, otherwise called sealed Earth; For *Diana's* Priest, taking it upon him for the honour of his Country, offering for expiation, wheat and barley, brought this into the City, soked with water, and making it like clay, he dryed it, that it might be like soft wax, and when it was become so, he sealed it with the sacred seal of *Diana, Gal. l. 9. Simpl.* Now it is digged up yearly, not without superstition, the sixth day of August onely. They that dig are Greeks, the pit sends forth a sweet smell. It is digged after Sun-rising for 6. hours, and it is laid up in one lump, and it must see no light till a year be expired. Then it is taken out and washt, being washt it is put into a bag; it is mingled with hands, it is made into round Cakes, and marked with the Emperours seal. Then it is dryed and put into a sealed Cabinet, and sent away to the Emperour to *Constantinople, Stephanus Albacarius in Epist. ad Busbequium.* It is good against deadly poysons. *Galen* tryed it against the Sea hare, and *Cantharides*, and found it good. The same Authour writes of it, that in a certain hill by the City of the *Ephestii*, where no plant lives, it is dug up, the ground being as it were burnt. *Terra Armenia* was wont to be brought from that part which is adjacent to *Cappadocia*; *Galen* saith, it helps difficult breathing, so that they die, whom it cures not. It is drank with Wine in a thin consistence, moderately allaid, if the party have none, or but an easie feaver; but if a strong one, with water. At this day, there is a *Bolus Toccaviensis* in *Hungaria*, it is like butter, and is good against Catarrhes; so that it is preferred before the Earth of *Armenia*; *Crato in Epist. Sileciaca Strigensis*, is also preferred before *Terra Lemnia*; *Sennert. Scient. natural. l. 5. c. 1. Johannes Montanus Silesius* was the founder of it, who writ a book of the same; that it is transmuted gold, by the ordination of God in his providence of nature, prepared and transmuted into a most excellent remedy, that chiefly prevails against venome, no lesse than the Medicaments that are made with great cost out of the best gold of *Hungary*.

CHAP.

CHAP. IV.

Of Salt.

SAlt is either made, or else it growes; It is made of salt Fountains, the water whereof boyled long, at length is turned to salt. It breeds many wayes. It is dryed in the Lake *Tarentinum*, by the Summer Suns, and the whole Lake turns to salt; in some places it is moderated, not above knee deep. In *Bactria* two Lakes very large, one toward the *Scythians*; the other toward the *Arii*, boyl with salt: Also the tops of some Rivers, and condensed into salt, the rest of the River running as it were under the Ice, as at the *Caspian* mouth, that are called Rivers of Salt. Amongst the *Bactrians* the Rivers *Ochus* and *Oxus* carry out of the opposite Mountains sholes of Salt. There are also natural salt Mountains, as *Oxomenus* in *India*, where it is cut out of quarries, and growes again; and the Custome of it is more to their Kings, than from gold and pearls. In *Cappadocia* it is digged out of the earth, the humour being condensed: there it is cut out like *Talkum* glasse. King *Ptolomy* found some about *Pelusium*, when he pitched his Tents. By this example, afteryards between *Egypt* and *Arabia*, it began to be found under the sands, as in the desarts of *Africa*, so far as the Oracle of *Ammon*. It increaseth with Moon-nights, *Pliny*. A thin salt is bred by the Sea; for when the Sea flowes, it froths, and drives that froth against the shores and Rocks. These are cut off, and laid upon them to dry, and in some places are turned into salt, *Dioscor*. There is a Lake of Salt in *Sicily* so bright, that, as *Pliny* writes, you may see your face in it. That of *Colomeum* tastes like rosted eggs: when it is hard, it cracks in the fire and leaps out; but melted, it doth not so: nor yet that which breeds in Lakes that is dryed by the heat of the Sun. Salt of *Agrigentum* will leap out of water, saith *Pliny*; torrified, it loseth little or nothing of its magnitude; but moystned, it loseth. Heaps of Salt that in *Africa* are made by *Utica*, and like hills for height, they grow so hard by the Suns heat, that no rain will melt them, and they can hardly be cut with Iron. It is observed, that such who are much disposed to putrid Feavers, are preserved from them by eating of salt freely with their meat, *Math. de febr. pestil.* Also fields where it is sprinkled, become fruitful by it, as experience makes good. Fat women, by the moderate use of it for to season their meats, grow fruitful: for it wipes away the moysture, and dryes the Matrix that is over-moyst, that the seed may stick. Also it stirs up the loins in men, and causeth Erection, *Lemnius de occult. l. 2. c. 36.* Hence the *Aegyptians* used no salt. That it helps to fruitfulnesse, Mice abounding in ships, and the continual lusting of women that use much salt, is a sufficient argument. *Libavius tom. 3. singul. l. 5.* thinks, it nourisheth, and is changed into ones substance with other things: for we see that there is no body but that Salt may be extracted from it. The generating of the most pretious Pearls in the Sea, and of Coral, that

that comes forth of Rocks with boughes and branches like a Tree divided, is ascribed to salt, *Quercetan de medic. Prisc. Phil. 2.* Farther, being put to the mouths of such as are Epileptick, it raiseth them. In swoonings, either by resolution of the spirits, or by oppression of them, do but rub the Lips with it, and it is a present remedy. Held in the mouth or swallowed, it hinders Worms from ascending into the stomach. Lastly, that it is an Antidote both for hunger and thirst, the Army of *Charles* the Fifth made good, at the siege of *Tunetum*: They had dyed, had not every one of them held a grain or two under their Tongues, *Bitker. in Praef. lib. de fanit. cohst.*

CHAP. V.

Of Allum and Nitre.

THere are many figures of congealed Allum; Allum called *Scissum*, is the flowr of Allum inclods, and is pressed together like planks; or it flourisheth severally like grey hairs: round Allum swells like bubbles, or is like a spunge, by reason of the holes in it. The liquid Allum sends out of it self such a vapour that smells like fire, as stones do when they are rubb'd together to cause fire. When it is put upon burning coles, or else put into a pot and is torrified with fire burning under it, it swells into bubbles, and loseth something of its substance, *Plin. l. 31. c. 10.*

Nitre in the *Clytæ* of *Macedonia* is the best; they call it *Calastricum*, it is white, and next to Salt. There is a nitrous Lake, where a sweet little Fountain comes forth of the middle of it, there Nitre is made about the rising of the Dog-star for 9. dayes, and then it ceaseth as long; then it swims upon it again, and then ceaseth. This is the wonder, that, the Spring of water always running, the Lake doth neither increase, nor run over. Those dayes wherein it is made, if there fall any rain, they make the salter Nitre. The Northern showers make the worst, because they stir the mud too violently. It is made also of the urine of living Creatures, that falls alwayes upon good and shadowy ground, *Ang: Salic: Vinc: S. 1. aph. 28.* It looks white, feels cold; it hath in it self a most red spirit, most hot and taking fire, *Sennert. l. 5. Epitom. Scient. natur. c. 2.* When it is burnt, it sends out alone no savour, that sense can perceive; but mingled with quick lime, it hath a most vehement smell. The *Egyptians* strewed their Radishes with their Nitre, as we do with Salt. The *Macedonians* adde some of the *Calastreum* to their Meat, and mould them together to make bread. The fine sands of *Nilus*, which as it seems were nitrous, were carried by *Patrobius*, a Freeman of *Neron*, to white their bodies with. Also Nitre, of which is made Halinitre, is at *Servesta*, and *Bernbergum*, *Georg. Agricola*. That Land will receive no Rain above a cubit. Like unto this, is that, where stone Walls, both in Wine-Cellars and shady places

places that are free from showers, that use to wash it off, do so sweat; as if they were sprinkled with flowr.

CHAP. VI.

Of Calcanthum or Vitriol.

THe best is the *Roman*, and *Hungarian*, the goodnesse is tryed by rubbing your knife against it; for if it make it look like Copper, it is the best, *Quercetan. de capit. affect. c.*30. It is apparent, that in its secret qualities, it contains Copper. The Ancients took one dram inwardly, and kill'd their Worms, and cured the venom of Mushromes, *Sennert. l.* 5. *Epit. Scient. natural. c.* 2. A little piece of the white dissolved in water, is happily used for the itching and redness of the eyes, *Platerus de dol. p.* 313. *Riolanus* saith, That the spirit of it is a caustick, that it will eat glasse wherein it is made. It hath Antipathy with the oyl of Tartar, they are both most acute and sharp. If you mingle them, the acrimony of both is lost, and the liquor becomes insipid, *Boethius l.*2. *de lapid.* Joyned with Nitre, it makes water fit to dissolve silver, *Minder. de Vitriol. c.* 9.

CHAP. VII.

Of Naphtha, Petroleum, and Maltha.

NAphtha, is the percolation of Bitumen of *Babylon*, so near akin to fire, that it will take fire at a distance, and easily be inflamed by the Sun-beams. *Plutarch* relates, That in the hollow Caves of *Ecbatana*, by the heat of fire, that it flow'd as it were into a pond; so ready to take fire, that before it came at it, it would take fire with the light of a Torch, and fire the Ayr that was between. The *Barbarians* to shew this to *Alexander*, strew'd a Village with it, that was in the way to the Kings Lodging; and at last putting a fire-brand near it, it flamed as if it had been all on fire. Hence he addes, that *Naptha* by some was called *Medea's* medicament, wherewith she anointed the Crown and Garment of *Creon's* daughter, and burnt her by this art. Of this in *Persia* is made a Physical oyl, wherewith a dart anointed, if it be shot slowly by a weak Bow, (for with swift flying it is extinguished) wheresoever it sticks fast, it burns; and if any would put it out with water, it burns the more; and there is no means to put it out, but by casting dust upon it. It is thus made: They season common oyl tainted with a certain herb: By experience of these things, and by continuance, a certain kind is made by the *Persians*, that congealing from a matter very natural, is like to thick oyl, and they call it *Naptha*, a barbarous name, *Libav. Tom.* 3. *singul. l.*2. *c.*7. *Petroleum*

leum is more liquid than *Naphtha*; In *Italy* and the Country of *Matina* it distills out of a Rock, white and red of a strong smell. In *Sicilia* it swims upon Fountains, which they call *Sicilian* oyl, and they burn it for Lamp oyl; *Pliny* commends it against the Scabs of Cattle. In the Country of *Parma* it runs forth white, at the Village *Meiana*; There are 3. Fountains there; they gather it every, or every other day, thus; They shake the water with brooms, and forcing the oyl into a corner, they take it with vessels. Every day half a pound in the most hot and dry time of the year, *Bauhin. ad l.* 1. *Dioscor. c.* 85. Of the red, at the Mount *Zibethum*, in the Winter, they collect 15. ounces, in Summer 45 ounces. In the Village *Allense*, it is collected black, with a fleece and a scoop. The more water is drawn forth, the more oyl they take; sometimes 240 ounces. It varies as the place doth. The *Italian* burns not in its Fountain, the *Babylonian* doth. That is wonderfull which *Mathiolus* reports, in *l.* 1. *Dioscorid. c.* 82. *Hercules* of *Ferrara à Contrariis*, had in his possession a pit, into which *Petroleum* distilled; He hired a Plaisterer to stop it; and because he could not do it without light, he let down a Candle, and the *Petroleum* took fire by it, and threw forth the Plaisterer, and brake down the sides of his pit. *Maltha*, is the straining of Bitumen, mingled with mud, that is like clay. *Pliny* speaks of it, *l.* 1. *c.* 104. *In the City Samosata* (saith he) *of Comagena, there is a Lake that sends forth burning mud, it sticks to any solid thing it toucheth, and it followes, when you draw from it.* In joyning of walls it serves for lime, And the *Babylonians* used it to build their walls with, *Vitruvius l.*1. *c.*5.

CHAP. VIII.

Of Pissaphaltum, and the wayes of Embalming dead Corps.

PIssaphaltum is Bitumen that Pitch is boyled with. *Bauhinus* thinks, it is *Mummy* of the *Arabians*. But this is of two sorts, naturall, and artificiall, that they embalmed with, consisting of Myrrhe and Aloes. But of the materials, and the manner how to embalm, we shall speak of them here, as we come to fall upon them: *Diodorus Siculus*, and *Herodotus l.* 3. are large concerning it: Three men perform this work. The first is called a Grammarian, who as the body lyes on the ground, appoints how great the incision shall be about the small guts on the left side. The other is the Cutter, and he opens the side with an *Æthiopian* stone, and then suddenly runs away; for those that stand by detesting the fact, pursue him with stones. Then follow the Embalmers. One of these drawes his incision through the inside of the body, besides the Heart and Kidneys; Another washeth it with *Phœnician* wine mingled with spices. Lastly, they anoint the body washed with Unguents of Cedar, and other pretious things for 39. dayes. Then it is delivered to the kindred that mourn for him; the

hairs of his eye-lids and eye-brows being preserved, that he may seem to be asleep. *Herodotus* speaks of three kinds of embalming; The first was by pulling the brains through the Nostrills with a hook, and the bowels taken forth with an *Æthiopian* stone, they cleanse it with *Phœnician* wine, and stuffe it with spices, then they fill the fat pannicle with Myrrhe, Cassia and sweet odours beaten, without Frankincense, and sew them in, then they salt it for 70 dayes; then they wash the Corps, and wrap it in a linnen cloth, and smeer it with Gum, and lay it into the fashion of a Man made of wood. The other is, by salting it 70 dayes, which drawes forth the inward filth. The third way is, the poor cleanse the belly with washing, then for 70 dayes they dry it with salt, and then they lay it up. And not onely men have been so honoured, but beasts also. For some beasts were sacred to the *Egyptians*; and when they were dead, they covered them with a linnen cloth, and spread them with salt, striking their breasts, and howling. And to preserve the body the longer, they anointed it with oyl of Ceder, and kept it in hallowed places. Also they put divers Idols into the breast of it. *Rondeletius* found in the breast of one of them 20 leaves of ancient Paper, written with *Arabian* letters, *Bauhin. ad l.1. Dioscor. c.* 85. Moreover, the *French* commend Mummy so much, that the Nobility will never be without it. They say, that *Francis* the 1. alwayes carried it in his purse, fearing no accident, if he had but a little of that by him.

CHAP. IX.

Of Camphir.

THe *Moors* write, that Camphir is a Gum of a Tree, that spreads out its boughes so far, that 100 men may stand under the shadow of it. They adde, that the wood is white, reedy, and hath the Camphir in its spungy pith. That's uncertain, but it is more certain, that it is made of a kind of Bitumen; thus, The *Indian* Bitumen, which springs from the native Camphir, is boyled in a vessel with fire under it; the thinner parts turn into a white colour, and are carried to the cover, which gives them the form we see, when they are collected. Merchants say, there is native Camphir in the *Indies*. It is so near to fire, that once fired, it will burn all out. The flame that comes from it, is bright and smells sweet. Hanged in the ayr, it evaporates by degrees, the most thin parts are the cause. Hence Apothecaries put it in a close vessel with Milium or Linseed, and cover it, *Plater de l.f.p.*165. The smell of it hinders lust; drank, or smelled to, and carried about, it extinguisheth the seed. And because it flyes to the head; if it carry up with it cold humours, it may cause sleep, and make men hoary before they be old. If to women, sick of the Mother, or fainting of heart pains, a small cup of water be exhibited, wherein so much Camphir is burned as a hazel-nut, it presently helps, *Heurnius*

nius l. 2. Medic. The *Neotericks* hold it is cold, and that it is mitigated by Ambergreece; and that the dryness may do no hurt, oyl of Violets is poured upon it. *Garzias ab Horto* saith, he learned by experience, that in inflammations of the eys it was as cold as Snow. But *Mindererus l. de Peste* writes; That when he went to visit sick persons, and had swallowed a small piece of it, he perceived nothing within him, but like a very small fire.

CHAP. X.

Of Amber or Electrum.

SOme think it to be the juice of Trees; but amisse. There stand no Trees by the Sea, that Gums drop from them, falling into the Sea, of which Amber is made. It is more certain, that it is a thick juice of the Earth. The most part is found in *Borussia*, also in *Curlandia*, on the part of *Sarmatia*, but not so plentiful. It is taken in nets like fish. When the North-west or West wind blowes hard at Sea, they all run to the shore, with casting nets of yarn in their hands, *Agricol. in l. de Fossil.* The winds being allayed, but the Sea flowing, when the waves return back, they draw the Amber from the bottom; and an herb like pennyroyall, that growes in it. When they have taken it, they carry it to the Magistrates, who give them the weight of it in salt. Every Moneth it is said to be sold for ten thousand *German* Crowns. At *Buchania* in *Schetland*, a masse came to shore greater than a horse. The ignorant Clowns used it for Frankincense, *Hector Boetius in histor. Scot.* Precious figures are made of it; the *Romans* were so taken with it, that a little picture of it was more than the price of a living man, *Plin. Histor. natural.* Rubb'd, it drawes straws, if it be not smeared with oyl or water. Some seek the cause in a dry spirit: But, *Scaliger Exerc.* 104. *f.* 12. saw it draw a green Lettice; some in the super-elementary quality: others think it comes by accident, *Fernel. l.* 3. *Med. c.*4. For it hath piercing and sharp spirits, and withal glutinous and fat. Being attenuated by rubbing, they wax hot, and they easily pierce into light things, as they break forth, *Libavius in lib. singular.* When they meet with cold things, they congele; congealed, they return toward their beginning; for the heat is driven back by its contrary. If you make a fine powder of chaff, and iron, the Amber draws forth the chaff, the Loadstone the iron. In the shore at *Puceca*, of former times, they digged up some of ash colour; which when it was broken with iron, it drew unto it leaves that were upon the ground, and two foot from it, which they were blown up into the Ayr: The white smells the best; Because of the Plague, Chambers are perfumed with the scrapings of it, the sent lasts for 3. dayes; every thin piece of it burnt in fire, flames away.

CHAP. XI.

Of Ambergreece, Jet, and Earthy Bitumen.

AMbergreece is a Juice in *Asia* amongst the *Moors*. Some think it growes like Mushrooms, out of the Earth under the Sea: Others say, that the Cod-fish doth greedily follow after it, and kills it self by devouring it: which the Fishers knowing, taking him in their Nets when he is dead, they unbowel him, *Mathiolus in Dioscor. l.* 1. The truth is, it runs out of the Fountains into the Sea, and being hardned, there it is cast upon the shore. It is good for the brain, that is cold, *Libav. l.*3. *Singul.* It may hurt the heart, unlesse the cause be cold that molests it; namely, if the spirits be hot, and too much attenuated, *Heurn. l.*2. *Medic.* A Plaister of Amber is good for bald and weak heads from a cold cause. He that carrieth it, after a little use perceiveth it not. The weaker a woman is, and the Matrix moveable, the more easily is it disquieted by Musk and Amber, and her head will ake. Infused in wine, it will make men drunk. Black Bitumen hardned in the Sea is called *Jet*: which the floods use to cast upon the shores of the *Æsyi* with Amber. Earthen vessels that are glazed with it are not defaced, *Plin. l.* 36. *c.* 19. When it is burned, it smells like brimstone. It is a wonder, that it kindleth with water, but is extinguished with oyl. It discovers the Falling-sicknesse and Virginity by the smell of it: drank by a Virgin fasting, it causeth her to make water, *Dalechamp. in Notis ad l. c.* *Nicander* in his Theriacks calls it, ἰνδικὸν πίτταν; the Interpreter expounds that, *Jet*; which is found great, and of a pale colour on the shore at the Town of *Ganges* in *Lycia*. *Strabo* saith, That creeping things fly from the sent of *Jet*. It is called Earthy Bitumen, otherwise burning stone, because it will flame, and is good for Iron-Smiths Furnaces. It is called *Ampelitis*, because it kills little Worms called *Caipas*; Also *Pharmacitis*, because it is good in Physick: I saw it dug up in *Scotland*. So in the Jurisdiction of *Leids*, where if it be hard, they make Chapelets of it to say their prayers upon. Hitherto belong the bituminous Furrs, that being dryed, make the Dutch fuel: Also they are dug forth in *Collaum*, a Province of *Peru*, which *Monardus* describes in these words: *In Collaum, a Province of* Peru, *there is a place all bare; no Tree nor plant growes upon it, because the Earth is bituminous, out of which the* Indians *extract a liquour good for many diseases. The way to extract it, is this, They cut the ground into Turfs, and in an open place they lay it upon rods or greater reeds, putting vessels under it to receive it; for by the heat of the Sun this Bitumen melts, then the dry turfs remain without liquor, fit to make fires.* Moreover, on the left hand in the shore of the *Sinus Pucicus*, not far from the Monastery, there are found clots of congealed Bitumen, very hard, about the bignesse of Eggs. They all burn, being kindled, *Agricol. in l. de Fossil.* Near these there grow pale-coloured shrubs that smell like fish, they are 3 or 4 hands breadths high. They have no roots,

roots, and are like little dishes; the Greeks call them *Lepadas*, they stick to the clods.

CHAP. XII.

Of Corall.

CORall, otherwise Stone-tree. It comes from a juice that is stony when it growes, under the Sea water: it is a small Tree green and soft, bearing Berries, like the Cornus Tree; in shape and magnitude, but soft and white: it presently growes hard before it is cut; it appears all green. Sometimes also the stalks of one Corall Tree are partly red, partly white, and partly black. In the Mediterranean, they gather great quantity of it; and those of *Massilia* go yearly to fish for it, and draw it from the bottom of the Sea with Nets, *Dispens. Chymic. l.*2. *c.*49. *Linschot. part* 3. *orient Ind. c.*1. At the Cape *Bon Esperance*, he saith, there are Rocks, on which Coral grows of all colours. The *Indians* weare it because Southsayers think it avoids dangers. The vulgar thinks it can preserve their Children from Witches: This is superstitious, but certain it is, it will quench thirst, being extreme cold: *Mercurial. l.* 3. *de curand. affect.* Tied to the neck, it drives away troublesome dreams, and stills the nightly feares of Children. *Parsa de prorog. vitæ l.* 4. If a Man weare it, it will be very red: but pale, if a woman use it. *Lemn. l. de occult. c.* 22. The fuliginous Spirits in a woman are the cause of it, and the faint heat in Coral. In men the naturall heat is strong and evaporates. Hence if Coral be covered with Mustard seed it waxeth red. There are other Plants in the Sea that come from a juyce that grows into a stone. About *Hercules* Pillars, and in the outland Sea, Trees grow like Bay Trees. In the *Indian* Sea, there are Bull-rushes and Reeds; in the red Sea, Mushrooms; all which being cast forth, are changed into stones. *Theophrastus* and *Pliny* confirm these; To this appertains *Syringites*, that is like a joynted straw, and the reed hollow.

CHAP. XIII.

Of Brimstone and Stylium.

BRimstone is dug up in *Islandia* by the Mountain *Hecla*, and that without fire. It is yellow that is digged out of a Plain of Brimstone, which in *Campania* they call Virgin-Brimstone, because women paint their faces with it. It is so friendly to fire, that pieces of it laid about the wood will draw the fire to them. The *Greeks* and *Romans* did purifie houses with the fume of it; put into the fire, it will by the sent discover the Falling-sicknesse. *Anaxilaus* made sport with it, carrying

carrying it about in a red hot cup with fire under it, which by repercussion made the guests look pale as if they had been dead; *Plin. l. 35. c. 15.* The *Chymists* make such an effectual oyl of Balsome of Brimstone, that it will suffer neither live or dead bodys to corrupt; but keeps them so safe, that no impression from the Heavens, or corruption of the Elements, or from their own original, can hurt them *Weck. Antidot, Spec. l. 1.* I shall say something of *Stybium.* It hath an exceeding purgative quality, as we see by experience. *Mathiol. ad Dioscorid, l. 5. c. 59. Andreas Gallus*, a Physitian of *Trent* fell into an inflammation of the Lungs, Heart and Stomack, with a wonderfull thirst, swelling of the Throat, beating of the heart, and a strangling distillation allmost from the head. He took three grains of Stybium with Sugar rosat: first he cast up yellow choler 4, ounces weight, and afterwards 2 pound weight, symptoms ceased, and he recovered his former health. *Georgius Hendschius* writes, that the same thing happened to him in the pestilence; Also *Lucas Contilis. Senensis*: taking 4, grains of Stybium vomited up 12, bits of Turpentine Rosin, that he had swallowed 15. dayes before. But a Parish Priest of Prague that was mad of melancholy, taking 12 graines of the same, purged choler downwards, that had like scrapings of flesh mingled with it, and they appeared as great melancholly Veins called varices cut into peices.

CHAP. XIIII.

Of Juices that grow into stones.

I had allmost forgot juyces that harden like stones. Nature hath wonderfully sported herself in them, sometimes it hardens before it touch the ground, and somtimes when it is fallen down. Both these ways are seen at *Amberga*, where there are white pillars made by it. *Agricol. l. de ess. ex terra.* What ever drinks it in, is made a stone, if it be but porous. Hence you shall find stony Fountaines; and Wood and Bones that are dug up. When the yorkmen in time of Warr fled into the Mines of *Lydia*, about *Pergamus*, the entrance being shut up, they were strangled, the den was afterwards made clean, and there were found Vessels of stone fill'd with a stony juyce. About the Coast of *Elbog*, there are great-firr Trees, with their barks, in the cracks whereof a fire stone of a Golden colour growes. About *Cracovia* in *Bohemia*, there are Trees with boughes, out of which there are Whet-stones with corners; which was a Present, sent from the Lords of *Columbratium*, to *Ferdinand* the first. *Hildesham* hath beames laid upon heaps; the heads of these somtimes stick forth, these being stricken with Iron or with another stone, not unlike the marble at *Hildesham*, they smell like the sent of burnt horn. There is also Wood changed into a stone, and in the cracks of it there is *Ebony*

Ebony dug forth, which *Theophrastus* was not ignorant of, that it lay hid scattered in the hollow of other stones. Looking Glasses, rubbing Cloths, Garments, Shoos, being brought into a quarrey in *Asia* of *Troas* become stones, *Gellicinus.* But stones that congele from juyce are commonly soft and brittle. In the hot Baths of *Charls* the 4th, many stones together are found, hollow like Hives, half Globe figured, so great as peise, they grow from the drops of the hot waters falling down. But those earthen Vessells that are found in the Earth, were Pitchers for dead mens bones, because in all of them covered with lids, there were ashes, and in some Rings were found, wee saw such a one in the Library *Thoruniense*. It was the fashion of the Antients, as all know, to burn and lay up their ashes. In *Italy* also some urns were found of glasse. *Cæsar Cardinus* had foure found in the fields of *Naples*: but what hapned at *Verona*, see *Berilus in descrip. agri Veronen.*

CHAP. XV.

Of the Loadstone.

THe Loadstone is well known. The effects of it are admirable; two are special, its turning to the poles of the World, and its drawing of another Loadstone and Iron. As for the first, in many places it doth not exactly respect the poles, the Declination is somtimes more or lesse. This age observeth, that for 10 degrees beyond the fortunate Islands, where *Cosmographers* have set the beginning of Longitude, it concurs with the poles of the World, toward the East it varies more; About *Norimberg*, they count 10 degrees, in *Norway* 16, in *Zembla* 17, as the Dutch observed; but one *Gilbertus* hath found out 23 degrees variation. Whence we collect the greatest variation to be 23 degrees. If we ask the cause, the learned are of divers opinions, some say there are certain Mountains of Loadstones under the poles, and they say the Loadstone moves by sympathy. Others write that it turns to certain Starrs. Others say there are in it two opposite points, whereof the one turns to the North, the other to the South. Others think, that it moves toward the South, because the operation of all the Planets is Southward. They all seem to be deceived. How great and what kind of Mountains these are, is yet unknown, and there are many Mines of it in *Ægypt*. It doth not directly point at the Pole, unlesse it stand in the Meridian. The point that is toward the South, is held the stronger. The work-Masters gives us a notable Maxime, when in the finger of the Marriners Chart, they rub that part of the neidle with the Loadstone, wherewith it turns to the South. Lastly there are opposite places, wherein the Ecliptick declines from the *Æquator* toward the North, and the Planets from the East make their motions by the North. It seems most

most probable, *Sennert, l. 5. scient. natural. c. 4.* that the Loadstone moves toward the South pole, either only, or if it hath two motions, the greatest is Southward. Let it suffice what *Scaliger* writes *Exerc.* 131. *Nature*, saith he, is at concord, and agrees with her self, she unites by an admirable order, all things above and below, that it may be one by a perpetual necessity. So that there are in things seperated not only steps, entrances, and retreats, but also minglings of those things which seem to be wholly parted. *Bodinus* pronounceth that all the 4, parts of the world are equally respected by the Loadstone *Theatr. natur. l. 2. For* (saith he) *the steel needle easily rubbed upon the Loadstone, from that part of the Loadstone that pointed North before it was cut out of the rock, if the needle be equally ballanced, the end rubbed with the Loadstone will turn to the North. The same force there is to the South part, if the needle be rubbed on the South part of the Loadstone. Nor is the force lesse for the East or west part of the Loadstone; though the stone cannot turn it self to the Poles of the world, but only the steel needle that is touched with it. But this I have said cannot be understood, but by experience: for if you put a peice of Loadstone upon a peice of Wood swimming in the water, and you apply that side of the Loadstone that looked Southward before it was cut out of the Rock to the side of another Lodstone that looked Southward also, before it was hewen forth, the stone that swims will fly unto the opposite part of the Vessel with water; but if you turn the Northern part of the Loadstone, to the Southern part of another Loadstone swimming in the water, the Loadstone that swims presently comes and joyns with it, so that they both unite by an admirable harmony of nature; though the wood or the Vessell of water be between. The same will be done, if you put only an iron Needle, thrust through a quil into a Vessell of water, and hold in your hand a peice of a Loadstone, one side of the Loadstone will drive off the needle, the other will draw it.* So saith *Bodin.* What concerns drawing: that the Loadstone doth draw, is maintained of the *Æthiopian* Loadstone; *Plin. l. 36. c. 16.* experience hath proved it; *Libavius.* I, saith he, *when I proved this, wiped off all dust from the Loadstone, and then I scraped away some powder of its own substance, this was laid upon a paper or plank of wood, and the powder scraped from it was laid under it, the Loadstone moved and attracted.* The Loadstone draws the Loadstone, by a certain line, because there is a spirit in it like to the other, and nature enclines and is carried to its like, as much as may be. It is as certain, that it draws Iron also. *The hardnesse of Iron gives way, and obeys; and that matter which tames all things, runs to I know not what empty thing, and as it comes nearer it stands still, and is held and sticks in imbraceings, Plin. l. 36. c. 26.* The vertue of it was found out, when the nails of his shoos and top of his crook stuck fast, for the first inventor was a Heyward. Nor doth it draw Iron on each part with the same force. The rule seems to be a right line. Therefore where the vertue comes not, the ends are turned, and whilst one of them inclines to the needle, the other accidentally turns from it, and seems to reject it. The same reason serves for divers Loadstones. In the *Midland* Seas of *Sardinia*, at the foot of the Mountaines that part, they bend Eastward; they say there is a Loadstone that draws Iron, but on the opposite part, one that drives it off, and therefore it is called *Theamedes, Plin. l. 2.* Wherefore do we go to Mountaines? We may see it in every laboratory, if we will beleive *Libavius, Syntagm, Art. Chymic. Tract. 1. l. 1. c. 19.* There are opposite parts in one and the same stone contrary to the rest: and it hath an example of sympathy and antipathy in it self; as Vipers, Scorpions and venemous Creatures have in themselves both their friends and their enemies. I shall set down some examples of attraction. *Severus Milevitanus* saw, when *Buthanatius*, heretofore governour of *Africa*, put Silver under between the Stone and the Iron, the Iron on the top moved; and the Silver was in the middle, and suffered nothing but with a most swift retrait, the Man drew the stone downward, and the stone drew the Iron upward. *August. de civitate Dei lib. 21. cap.* In *Alexandria* in *Egypt*, at the roof of the Temple of *Serapus*, there was a Loadstone fastned in, which held an Idol that had an Iron in the head so fast, that it hung between the roof and the ground; *Euseb in Histor. Eccles. Agricola* said, he saw a round looking glasse, that was three hands breadth broad, and two high; in the concave part whereof there was a Loadstone, included above, (*Agricola de subterran*) that drew an Iron boul placed at the bottom of the glasse unto it self, so that the thick body of the glasse could not hinder the force of it; the Iron Globe that useth to fall down, was carried up. Let us come to the cause, and inquire whence comes this force in the Loadstone. Each man speaks diversly, and so many men allmost so many opinions. *Libav. l. 1. de Bitum. c. 12.* saith that there is a bituminous nature in the Loadstone, reduced to the disposition of Iron, by a similitude of sympathy and mixture, whereby the same principles grow in Iron. And he adds, that there is an Iron bituminous spirit common to them both; but it flows not out continually, and as strong from Iron as from the Loadstone, by reason of the diversity of coagulation or commission; Others attribute that to the hidden forme: Others alleage a mutual harmony of naturall things. There are in the great world, saith *Langius, l. 2. Epist. 35*, under the concave of the Moon, some things that by a secret consent agree wonderfully together. The truth is, the Loadstone is some kind of vein of Iron, and Iron may be generated of it: *Sennert. l. 8. Epit. c. 4.* But the Loadstone loseth its attractive force, if you work it in the fire: For whilest it burns, the brimstony spirit of it flyes forth, as *Libav. l. 2. singul.* thinks. We saw, saith *Porta* (*Mag. natur. l. 7. c. 7.*) with great delight, the Loadstone buried in burning Coles, to cast forth a blew brimstony Iron kind of flame, which being dispersed, the quality of its life departed, and it lost its power to attract. It yields to the injuries of the weather, and dies with old age. The expiring of it, is hindred by oyntments rub'd upon it, and the tenacious juice of Leeks; others add, oyle of Bricks. *Lem. l. 4. c. 10. de occult. But Cardanus l. 7. de subtil:* denyeth this. It will not lay hold on rusty Iron, and much lesse on rust, *Scaliger Exerc. 112.* Otherwise if Iron-filings were buried in dust, or the Iron be on the other side of the Table, the spirit, as was said, is not hindred.

CHAP. XVI.

Of the Stones, Schistos, Galactites, Gip, Selenites, Amiantos.

Schistos the more it shines, like Iron, the harder it is. In *Misnia* there are bred some knobs about the bigness of a Wallnut, so hard, that laid on an anvil, they resist the strokes. *Agricola* saw one of *Missena*, that weighed 14 pounds. *Galactites* at *Hildesham* is dug forth of a Sand-pit; yearly it increaseth from a milky and glutinous juice; so that some are found as big as ones head; they say it makes Nurses full of milk that drink it in powder with water or sweet wine. All *Gip* is hard: In *Saxony* in the Land of *Hildesham*, it is found like to Sugar; The Inhabitants of *Hercinium*, and *Thuringum*, burn that which is hard, and grind that which is burnt; and wetting it with water, they use it for Lime: what colour soever it be, it growes white by burning. *Lysistratus* of *Syce*, Brother to *Lysippus*, was the first that made a Mans picture with a face in *Gyp*, and then poured Wax melted into that form, trying thereby to make it better. A wall was made of *Gyp*, in pieces of Ash-colour, at *Northusia* in *Thuringia*, and the Port of *Algers*, a Town of *Mauritania Cesariensis*. *Selenites* is a stone that is wont to be found at dark night when the Moon increaseth; and it represents the Moon by shining in the night, and it increaseth and diminisheth with it daily. It not onely shews your face, but it will represent the image of a thing behind your back. It endures the Suns heat, and Winters cold, but it cannot away with rain; for it will corrupt, if great pieces of it be exposed to rain. *Amianthus* is made of an appropriate juice; the fire is so far from polluting its lustre, that if it be cast in, it will shine the brighter. Once lighted, it never goes out, if oyl fail not. Hence it is called *Asbestos*; and because it is like to womens full hair, and to mens hoarinesse, it is called *Bostrychitis*, and *Corsoides*. *we saw (saith Pliny) in banqueting places, napkins made of it, that when the filth was burnt out of them, were cleansed more with fire, than they would have been with water.* It was found at the siege of *Athens*, that things anointed with it would not burn; under *L. Sylla*. This stone is kembed, spun and wove, though with difficulty, because it is short: and they make not onely Napkins, but Table-cloaths of it, and Towels. Also of old time they made the Funeral Coats for Kings, which were put upon them, when they were put into great fires to be burnt, that so the ashes of their bodies being parted from the wood-ashes, might be laid up in their Sepulchres. *Pliny* saith, that this Linnen hath been found to equall the price of the best pearls; but now it is sold at mean rates.

CHAP.

CHAP. XVII.

Of Stones that represent divers Forms.

THere are many stones representing divers forms. We will mention some here, namely, *Trochites*, *Eutrochos*, *Encrinos*, *Enorchis*, and others. *Trochites*, is like the round head of a pillar: the round part is smooth, but each broad part hath, as it were, a kind of conveyance, from whence are lines unto the extream part of the Circle; Put into vinegar, it raiseth bubbles, and some are found that move from place to place. *Eutrochos* is made of *Trochites* not yet separated. Whose *Trochites* have eminent lines; in that part where two of them meet, there seems to be a girdle twisted round within it. But the *Trochitæ* are so joyned, that the lines of the one enter into the furrowes of the other. *Encrinos*, is like Lillies, for when one part with corners is parted from the other, both shew like five Lillies. *Enorchis* in the shards is like testicles. In the Diocesse of *Trevirs*, when Cements are digged up to repair buildings, they meet with blackish stones that represent the secrets of women. *Diphyis* by an intercurrent line represents the Genitals of both Sexes. The *Dactyli* of *Ida*, in *Crete*, of an iron colour, are like a mans thumb. There is also a stone found like a new Moon, cloathed with Armour of a golden colour. *Hæphestites*, represents the nature of a glasse, and in the Sun it will fire dry matter. At *Salfelda* in *Thuringia*, there is a stone dug forth of a pit 20 fathom deep; it is like a firm breast, a foot and half long, three hands breadth; on the former part where the ribs end, it is six fingers thick, on the hinder part where the whirlbones are pierced through the middle, but three; the back-bone was empty, where it should represent the marrow. The outside of this stone was either black, or some rare colour, and the inside was like to the *Lapis Arabicus*. It is supposed to be of great vertue. *Belemnites*, is like an Arrow, with a large head, and a sharp point. There is in it a kind of rift, it is clothed with golden coloured lines, and it shines naturally like a Looking-glasse. It smells like filed or burnt horn, if it be rubb'd.

The *Saxons* name it by a name compounded of *Ephialtes*, and an Arrow; and they say, if one drink it, that it is good against suppressions, and such hags in the night.

CHAP. XVIII.

Of the Eagle stone, Enhydros, the Touch-stone, and the Pumex stone.

THe Eagle stone is found in divers Countries; In the Country of *Misenus*, then especially, when great rains fall. It smells like a Violet, by the Mosse sticking upon it. It hath in it little stones, that being loose and shaken, make a noise: They commonly stick to *Misenus*; some have earth with them, as at *Hildesham*, and some gold, as those of *Cyprus*. That which hath a little stone in its belly, as the *Greeks* say, if it be bound to the left arm of a woman great with Child, through which an Artery runs from the Heart, toward the ring-finger, next to the little finger, it will hold the Child in the womb that is ready to miscarry; bound to the left thigh of one in labour, it will so help her, that she shall be delivered without pain: but so soon as she is delivered, it must be taken off, that the Matrix follow not. As it fell out with the Wife of a Citizen of *Valencia*, *Francis. valeriola l. 1. observ.* 10. It helped her, tyed on, to be delivered; but not taken away, it was her death.

Enhydros hath water within it; It is perfectly round, it is white and smooth, but it flotes when it is shaken. There is liquour in it like as in an Egg. Also liquid Bitumen, sometimes that smells sweet, is found in stones shut up as in vessels.

The *Touch-stone* is that stone they prove gold by: In *Theophrastus*'s dayes they were onely found in *Tmolus*; but at this day in the Rivers of *Hildesham*, and *Gosselar*. The parts of them that are found looking toward the Sun, are the best for tryall; the worst look toward the Earth, those are the dryest: but these are hindred by their moysture that they cannot take the colour of gold or silver.

The *Pumex stone* is found in places that have been burnt, baked out of the earth, or stone: because it hath holes, in which the light ayr flotes; and because it is without moysture, it burns not. They that have charge of Wines put it into a vessel of boyling new Wine, and it presently gives off boyling. Drunkards that strive for mastery in drinking, arm themselves with the powder of it; but unlesse they drink abundantly, they are in danger, saith *Theophrastus*.

CHAP. XIX.

Of Lapis Vitrarius and Specularis.

THere are three kinds of stones that will run in a burning furnace. The one is like to transparent Jewels. It hath their colour, but is not so hard. Of this kind is *Alabandicus*, which melts in the fire, and is melted for glasse; The second kind is not much unlike it, but hath not so many colours, the third kind is *lapis Vitrarius*. This hath its

its proper Veins also. At *Annebergum*, in a Silver Mine it was found in the forme of a Crosse; at *Priberg* like to an Ape; pieces of it are found also out of the Earth: but by the running of the waters, they are polished by rubbing against some stones of their own, or of some other kind. The white stone is burnt, beaten to powder, searsed; of that they make sand, of these they blow glasses. The River *Belus* at the foot of the Mount Carmel, rising in *Phœnicia*, between the Colony of *Ptolemais* and the City *Tyre*, brings those kind of Sands fit for glasse to the Sea side, which being tumbled with the Waves of the Sea, shine, their foulnes being washed off. *Plin. l. 6. c. 26.* The report is that a ship came loaded with Nitre, the Merchants provided their Victualls as they were dispersed here and there on the Sea shore, and when they found no stones to make them Tables of, these took fire, and the Sea shore sand mingled with them; thence those transparent Rivers of this noble liquor began to run; and this was the beginning of Glasse. But we must not think that Glasse is made of this Sand only. To three parts of that they add one part of Nitre, and of these melted cometh Anime-nitre. If Nitre be wanting, mineral salt will supply the defect. If this, then either Sea salt, or the Ashes of the herb *Anthyllis* burnt. But when that the matter of glasse melts in the fire, it froths; and the froth is taken off with a drag: when they are forthwith hardned, they are made into white loafs, in which there is a mixt tast more salt than bitter. Men report that in *Tiberius*'s days, there was a way invented to make glasse malleable, and that his whole shop was ruin'd, that the price of Gold, Silver, Brasse and other mettles should not be brought down; but the fame of it is more constant than certain. In our time, especially at *Venice*, is glasse of high esteem; we have seen some that have framed divers works of it, as bright as a Candle. When *Nero* raigned, by the art of making glasse, was found out to make small Cups with two ears, they called them *Pinhal or Pterota*: one of them was sold for 6000 *Denarii*. I referre the *lapides speculares* to these, because they were of a bright substance; as *Basilius* writes, it was transparent like the Ayre. The Antients used it for Windows, as we do glasse. *Nero* made a Temple for Fortune of these stones, so that whosoever stood without was seen, though the doores were shut, the light appeared though not sent through. *Pancirolla, l. 1. de vetter. deperd.*

CHAP.

CHAP. XX.

Of Crystal, Iris, and the Diamond.

CONcerning the Originall of Crystall, writers differ. *Plin. l. 37. c. 2.* saith, that it is made by the most violent frost from Snow or Ice. *Agricola, l. 6. fossil.* saith, it is some sap congealed by cold in the bowels of the Earth. The former opinion seems to be true. For not only the name confirms it, but the place also where it is bred, for it is found in those places where the Winter Snows are, in such unaccessible places of the Alps, that oft times they are fain to be let down with ropes to draw it to them. In *Asia* and *Cyprus* it is Plow'd up, and carried along with the torrents. *Scalig. exerc.* 119. From the *Percinian* Rocks, which are in the extreame parts of *Noricum*, it is pulled off from the tops of Mountaines there, that are covered with no earth. Somtimes there is a kind of coorse Silver in it, of the colour of lead Ore, and of divers weights. In *India* it is found so great that they make a Vessel of it somtimes that will hold four Sextaryes. *Livia Augusta* dedicated one in the Capitol, that made a Vessell that held 50, pounds. They are seldom found single, many of them oft times stick upon one root, somtimes rising together, and somtimes a part. They lye somtimes so fast, that it is a hard matter to pul them off. Every Crystall point, and the whole body of it, is with 6 Angles. It cannot be melted by heat of the Sun. The extreame cold hath so frozen it, that it is not a small thing can melt it, yet can it not endure heat, *Bodin. l. 2. Theatr Natur.* For in the hottest furnaces and great flames, it will run by continuance; being melted, it will harden again; and if you poure hot liquour into a Crystal cup, it will break. It is thought, worn about one, to cure the Vertigo; and for that cause, Men drink out of Venice Glasses, *Plater, l. 1. de. Inf.* There are made of it, both Glasses and Chamber pots, such a one as *Plin.* writes was bough by a Matron that was not very rich, for *H. S. C. L. M.* or 450000 *sestertii*. *Pancirolla* had one of so pure matter, and so transparent, that it seemed almost to be ayre, the outsides only being opposed to the view. It had an adder in it, with open mouth ready to devoure a young Lamb, but he was hindred by the opposite Crosse. *Pancirol. de veter. deperd. l. 1.* Also *Iris* is a white Jewel: if it have a sexangular forme, held against the Sun beams entring in at the Windows, it casts the colours of the Rain-bow on the wall that is over against it. The Diamond is found in many Mines. The *Indian* Diamond exceeds not the kernel of a small nut, that of *Cenchros* is no bigger than a millet seed, *Agricola l. 6. de fossil.* The Antients speak much of it, namely that it cannot be broken by hammers, that it takes all virtue from the Loadstone; and so resists fire, that it will never waxe hot. Those of our days have found the contrary. *Camer. memorab. med. c. 8. M. 42.* For a hammer will break it, and an iron pestle will bring it to powder. It yields to fire, and may be calcined with a long continued flame; yet though in an hour by the fire it will lose its lustre, it will recover it again by polishing with some defect in the lustre. It hath been found, that rubbing one against the other, they have been so glew'd, that they could not easily be parted, *Bodin. Theatr. Natur. l. 2.* It hath been seen to draw strawes when it hath been hot, *Garzias ab Horto l. 1. drom. c. 47.* It was hitherto believed, that the powder of it drank, would breed the Dysentery; but that hath been disproved. Slaves have swallowed down some to hide their theft; they sent them forth by stool whole, without any hurt to their health. *Cardan. (2. Tract. 5. Contrad. 9.)* saith, That one dram weight drank in powder, did no more harm, than a piece of Bread. The *Turkish* Emperour gave 50000 Crowns for one.

CHAP. XXI.

Of the Opalus, Emerald, Heliotrop, and Topaz.

Opalus is a Jewel, which when you hold it downward, it hath the clear fire of the Carbuncle, the shining purple of the Amethyst the green Sea of the Emrald, and all things else shining with an incredible mixture. An Emerald doth so change the ayr about it with its own tincture, that it will yield neither to candles, Sun light, nor shade. Hence in the water it seems greater. Those that are not perfectly green, of them, are made better by wine and oyl. They are seldom so great, as that you may grave a seal upon them. Yet there is one not very small at *Lyons* in a Monastery; and that which was seen at *Prague* in the Chappel of *St. Venceslaus*, it is above 9. parts of 12. greater than that, *Bodin. l. 2. Theatr.* There is one longer at *Magdeburg*, which is contained in part of the spire fashioned Cabinet, wherein the Host is carried; some say it was the handle of the knife of *Otho* the first. There was a Jewel once found in *Cyprus*, the one half of it was an Emerald, and half a Jaspir. The Emerald hath wonderful vertue; It is an Enemy to poysons and bitings of venemous beasts; and it breaks, if they overcome it. It is said, to further womens labour, tyed to the hips; and to hinder it, laid to the belly, *Sennert. l. 5. Epitom. Scient. naturall c. 5.* Shut in a ring, or hanged about the neck, if it touch the naked flesh, it preserves from the Apoplex, *Plat. l. 1. del f.* It hath been known to break off from the fingers of the Master of it that wore it, when he was dead. It cannot endure venery; for if it touch oiles body in the act, it will break. *Albertus*, the King of *Hungary* had one that brake at that time in 3. pieces. *Heliotropium* is a Jewel marked with bloody veins; cast into a vessel of water, it changeth the Sun beams falling on it, by reflexion, into blood colour. Out of the water it receives the Sun, like a burning Glasse, and you may perceive the Suns Eclipses by it, how the Moon

Moon moves under. A *Topaz* is not onely transparent, but also shines wonderfully; and the brightnesse goes forth like gold: it is greater than other Jewels; for thence it was, that a Statue was made for *Arsinoa* Wife to *Ptolomæus*, *Philadelphus*, of 4 cubits high, and was consecrated in the Temple that was call'd the golden Temple.

CHAP. XXII.

Of the Amethyst, Hyacinth, the Sardonix, and the Onychite.

IT is called an *Amethyst*, because it comes near the colour of wine, and before it comes to it, it ends in a Violet colour, *Plin. l. 21. c. 8.* Laid to the Navel, first it drawes the vapours of Wine to it self, and then it discusseth them; wherefore it keeps him sober that wears it, *Aristotle*. The *Hyacinth* in clear weather shines the brighter; in clowdy weather the darker. By its fast cold, it condenses, and refreshes bodies, and preserves one that wears it, from the fierce pestilence. *Sardonix* is a Jewel compounded of a *Sardonius* and an *Onyx*. It shews inverted like a nayl of a mans hand: the most generous roots are from a certain blackish ground, and first represent *Onyxes*, then they are compassed with a reddish circle, from thence a round line goes about them, then at a greater distance the circle growes larger; lastly, to all those girdles another kind of basis is placed under them. The *Græcians* made great account of this Jewel. *Polycrates* the King of *Samos* esteemed it so highly, that when as fortune had alwaies favour'd him, that he might try the contrary fortune, he cast his ring into the Sea, wherein this stone was set. An *Onychites* at *Colonia*, in the Temple of the 3. Kings is broader than ones hand, *Agricola*. The milky veins of it so run forth, that they represent two young mens heads; the black veins so, that they represent a Serpent descending from the forehead of the lower head, and a black-Moors head with a blackbeard: But that was placed upon the mandible of the white head. Two *Onyxes* rubbed under a Table, will so burn, that you cannot hold them in your hands.

CHAP. XXIII.

Of the Jasper, Nephritick stone, and an Agat.

A *Jasper* bound to the thigh, will stop the menstrual flux of blood, and all bleedings, which admit of no help otherwise. It stops bleeding at the Nose, being hanged about the Neck, *Sennert. l. 5. Epitom. Scient. natural.* Bound to the mouth of the stomach, and so carried all day for the Falling-sicknesse; if sweat follow, it frees from the fit, or else the sick fall, *Baccius de gem.* *Pliny* saith, he saw one of

of eleven ounces, and of that was made the picture of *Nero* in Armour, *Plin. l. 37. c. 9.* There is found in *Silis* one of a blew colour, that goes 9 foot deep, and then comes a dark sandy stone, about 12. foot long, that hath no Jasper in it, *Agricola l. 6. de Fossil.* From the authority of *Thætilis the Jew*, There are found some strange kinds of it. There was a man seen in one, that had a Buckler on his neck, a Spear in his hand, a Serpent under his feet; It had vertue against all enemies: In another, there was a man with a bundle on his neck. It had vertue to discover all diseases, and to stop blood, *Lemnius de gemmis Biblicis.* The report is, that *Galen* wore it on his finger. There is a green one found signed with the crosse, good to keep one from drowning. The *Nephritick* stone is referred to the *Jasper*, it is found onely in *Hispaniola*, *Sennert. l. 7. Inst. l. 5. p. 1. S. 1. c. 17.* The superficies of it is alwayes fat, as if it were anointed with oyl. The *Spaniards* wear them cut in divers forms. Many things confirm the wonderfull vertue of it, *Ilnzer. de Nephritid. l. 1. c. 7.* Hanged about the neck, it so breaks the stones, that they will seek for passage out of the body at both the Eyes, and where they can find way. A certain Merchant of *Lipsick* testifieth this, who had such things happened to him; and both his eyes grew red, by the salt and sharpnesse of the same. It will cure all distillations that fall from the head on the Chest, saith the same Merchants Wife. For when she had carried one 3 weeks, she was cured; but the Physitians could not cure her. It will cause one to make water that is stopt, as we find in the same place: but this is singular, that born about one awhile, it will cause a great tickling; yet it ceaseth in 2. or 3. days space; but it returns, if it be applyed again. Also it causeth hollow places under the skin; which if you break, then they send forth a very great quantity of sand. It is prepared by a singular and secret art, and one dram and a half for a dose of it so prepared, is given in Parsley and Juniper water: But the gravel doth hurt, if it find the stomach full. *Libavius 1. Synt. Art. Chym. l. 1. c. 14.* doubts of it, whether it doth these things by its own force, or anothers. His words are; *Sometimes it happens, that nature is stimulated, by meer perswasion and belief, from some conception of the mind, which we ascribe to the Object, the Fancy moving first by that. But the efficacy is not alike in all, nor is their assent and belief alike, unlesse you would say, that not onely the Patient is troubled with the gravell, but he must be of such a disposition also, as may admit the force of that stone.* And it is found, that the *Nephritick* stone is uneffectual to many. An *Agat* out of a River of *Sicilia*, hath its name from it. Veins and spots do so run up and down in it, that sometime it represents a Turtle; sometimes a horn; sometimes one small Tree, 2, 3, or 4; appearing like a Wood. *Capillus* of *Pisaura*, saw once one that had as it were 7. Trees in a Plain. In the *Agat* of King *Pyrrhus* there were the 9. Muses naturally with *Apollo*, and the Muses had their several badges. That which is of one colour, being boyled in an earthen pot full of oyl with several paints, and in two hours being made somewhat hot, will make one colour like

red Lead out of them all, *Dalechamp in Plin. l.37.* *Agricola l.6.Fossil. Plin. l. 37. c.1.*

CHAP. XXIV.

Of the Ruby, the Carchedonius, Sandastrus, Chrysolite, and some others.

A *Rubie* is of an exceeding red colour; Sometime it is so great, that vessels are made of it, containing a *Sextarius*. A *Carchedonius* is so called, because it was found amongst the *Garamantes* and *Nasamones*, amongst the gravel, and was brought to *Carthage*. It is otherwise called a *Granate*. It is said, that when they sealed, though in the shade, the wax would melt, *Archelaus*. It will not burn in the fire. *Sandastrus* hath red with a golden colour, golden spots shine within, as Stars in a transparent body; the more they are, the more costly is the Jewel. But because commonly it is marked with the 5. Stars called *Hyades*, both in their number and disposition, the *Chaldæans* were superstitious about it. The *Chrysolite* differs in the plurality of its Stars. *Bochus* writes, he saw a Spanish one of 12 pounds weight. *Agricola* saw a clod dug out of the Mines in *Germany*, that was made of more than 60 *Chrysolites*, all of them four square. The greatest was an inch broad, and 2 fingers in length, it was too soft to polish: *Asystos*, made hot in the fire, contains the heat for 7 dayes; it is black and ponderous with red veins distinguishing it. *Calcophnes* is black, but struck upon, it sounds like brasse; it is said to be good for *Tragædians* to carry with them. *Catochites* is a stone of *Corsica*, wonderful, if report be true; it holds, your hand laid upon it, like Gum. The *Medes* send *Gasidanes*, it growes in *Arbelis*. They say it conceives, and being shaken, you may hear the noise of the Infant; it conceives in 3. moneths space.

CHAP. XXV.

Of Jewels found in the bodies of living Creatures.

Artic. 1. *Of the Draconite, the Chelonia, the Cockstone and Toadstone.*

MAny Jewels are found in the bodies of living Creatures. I will only set down some. For too reckon them all is to much for an Epitomist. *Draconites* of *Dracontia* is made out of Dragons brains, but unlesse you cut it out whilst they are alive, it will never grow hard, by reason of the malice of the Creature, finding it self ready to dye. Therefore Men cut them out when they are asleep. *Sotacus*, who writ, that

that he saw that Jewel with a King, saith, that those that seek it, ride in Chariots; and when they spy the Dragon they scatter sleepy medicaments, and so they come to cut it out. *Plin. l. 37. c. 10.* They are transparent white, and admit of no art to polish them. *Cinediæ* are found in the brain of a fish of the same name; they are white and somwhat long and wonderfull in effects, if it be so as men write. They foreshew the face of the Sea, by their troubled or peaceable colour. *Chelonia* is the eye of an *Indian Tortis*, most wonderfull by the invented lyes of Conjurers: for they promise, that if you lay it upon your tongue with liquid honey, it will foreshew future events at the full and new Moon for all days; but when the Moon decreaseth, before the Sun is up, at other times from one a Clock till six. Moreover of *Draconitis*, *Philostratus* writ; and ascribes to it as much vertue as *Gyges* ring had; *Rhodig. c. 11. l. 6. antiq. lection. Alectorius* is cut out of the gizard of a Cock with a Comb, being included with a thin skin or membrane, 4. yeares after he hath been gelded; *Lemn. de occult.* It may, be it is congealed from the excrement of seed, by force of his imbred heat, as milk grows hard in the breasts. It procures Men favour, and makes them lusty. Toads produce a stone; with their own Image somtimes. It never grows but in those that are very old. *Libav. l. 3. singul.* In the family of *Lemnius* there is one kept that is greater then a Hazel nut. *Lemnius de occult. l. 2. c. 30.* It is proved to dissolve tumours that rise from bitings of venomous beasts, if you rub it on often. The *Lapis Bufonius*, called *Gratteriano*, the Swedes Chronicles write of it, it weighed 5, Physicall pounds, and 3, Ounces, 2, drams lesse; *Crasius annal. Suevic. l. 12. p. 3. c. 37.* The words are these. *After the joyfull birth of our Lord Jesus Christ, of the Virgin Mary, the mother of God.* Anno, 1473; *after the birth of St.* John, *the 27 of June*, Berchtholdus Gratterus *dwelling then at* Hopstach, *in the afternoon went into a wood, which they call the Vale of* Dipachia, *to cut poles to make hoops for Vessells. In that place he heard a hissing and a great noise by a River in that Valley, and when he stood a farr off to see what the matter was, he saw an incredible heap of Serpents and Vipers, and Toads lying twined together. As nere as he could conjecture, it was a greater quantity than a great washing Tub could contain. He was frighted and durst go no neerer, yet he cut a bough, and marked the place there in the confines; that day he came twice back, and beheld that conventicle of Serpents, and he found them all, allmost together upon a heap: wherefore he left them and went home, concealing the matter for three dayes; when he returned to the Wood, he found that these water Snakes were gon, and none of these venemous Creatures were left, but only one Toad that was killed, and a Snake in a white glutenous humour, and thick, shining like to frog-Spawn, and neere to it, that Toadstone Bufonius, which he catcht up, and wiped it, and carried it with him home, keeping it for some farther profit. But after that Gratterus came into the Town (about a 100 yeares since) the stone was used successfully, for Man and Beast, as it follows. The eldest Sonne of the house of* Gratterians *keeps this Toadstone, and he will not lend it especially to strangers, under a pawn of 50, or a 100, Livers.*

Amongst

Amongst the other vertues it is observed that it hath very great force against malignant tumours, that are Venemous, Cholerick or Erisipelas, Apostems, and Bubos; and for Cattel that are bewitched. They are used to heat it in a bag, and to lay it hot without any thing between to the naked body, and to rub the affected place with it. They say it prevails against Inchantments of Witches, especially for great bellied Women and Children bewitched. So soon as you apply it to one bewitched, it sweats many drops. In the Plague it is laid to the heart to strengthen it. It draws Poyson out of the heart, and out of Carbuncles and Pestilent sores. It consumes, dissipates and softens all hardnesse, Tumours, and Varices.

Artic. 2. *Of the Stones Chelidonium, Crabs eyes, Snail Stones, and Bezar.*

CHelidonius is so called as if it came from Swallows; Yet it is formed of a yellow Gold coloured Jasper. Bound to the right arme, it is good against fantastick thoughts, from melancholy: It cures such as are Lunatick and mad, and hath a peculiar vertue against diseases of the eyes, *Plater.* Also in the heads of River Crabs, there are stones which steeped in most sharp Vinegar, they will seem to move. *Quercet. in dial. s. 3. c. 7.* With their powder to half a dram in White Wine, the Stones of the Kidneys are happily driven out. *Henric. a Bra. de calc.* The Snail-Stone, put under the tongue, hath a great force to cause salivation. It makes the tongue moyst, and the humour fluent, and stenchetth thirst, and represseth heat. Bound on, it helps Children to breed teeth, *Plin. l. 30. c. 5.* A water Snake casts up by vomit, a stone into the water under her, if you bind a cord to her tayle. *Holler. l. 1. de morb. inter. c. 39.* This hath such force to consume water, that it presently drinks it up. Wherefore, laid to the belly of an hydropick person, it consumes the water by degrees, *Plater. l. de vita.* The Bezar Stone is found in the Stomack of a hee Goat (rather of a shee Goat) in the *Indian* Mountaines. *Sennert l. 5. Epitom. scient. natural. c. 4.* Somthing which hath a kind of bark, and is, as I may so say, *Chamford* (saith *Sennertus*) proceeds from a small beginning, that is oft times, straw, to which some moisture sticks like glew, and hence it is that that stone is made up as it were of many thin plates. It is great in an old, lesse in a young shee Goat; and all those plates both inward and outward are smooth and shining. *Rasis* by experiment commends it against all Venome. Not only drank saith *Mathiol. on Diascorid. l. 5. c. 75.* but also bound on, so that, it may touch the naked skin of the left side, it excells all other things. *Abdelnarchus* adds farther, *The stone they call Bezoar, we have now seen, with the Sons of Almiranta keeper of the Law of God: for which stone at Cardubahee, at the beginning of the warrs, parted with a magnificent, and almost Kings Palace.*

Some say, that the Bezar stone is nothing but the Tears of the Stag; for they say, that the old ones, overgrown with Age, do eat Serpents, and

and grow young again: and for to conquer the venom, they drench themselves in a River, onely their head forth; and, as they stay so, a clammy humour falls from their eyes; and being congealed by the Suns heat, it becomes a Stone there. It is like an Acorn, and being fallen from their eyes, it is gathered up by such as attend for it. Yet they are thought to be divers, *Scalig. Exerc.* 112. writes thus concerning the Stags tears, which he held to be the dearest thing to him in his Treasure of the Muses; *Before 100 years a Stag hath none; after that age it growes at the corner of the eye, and thrusting forth like a bone, it growes harder than horn. The prominent part is round, very shining of a gold yellow colour, with prints of other veins. It is so smooth, that you can scarce feel it; and it so drawes it self away, that it even seems to move. It is an excellent remedy against poysons. To those infected with the Plague, it is given with a little wine, and they will sweat so, as if their whole body would melt.* Thus far *Scaliger.* He that would be fully instructed, let him read *Bauhinus* of the Bezar stone.

CHAP. XXVI.

Of Gold.

WEe have done with Minerals thus far. Now follow Metals. First, Gold: This is found in its proper vein, and in stones that are of shining white; also in the true Pyrite, and sometimes in stones of iron. In *Spain* some pieces have been found weighing above ten pound weight. It is plough'd up in *Galitia, Justin. l. 44.* *Dubravius* writes, that in the Mountains of the *Geloviense*s, a masse of ten pounds was taken out of a Rock; and he saith, it was presented to King *Wenceslaus.* In *India* the Pismires (which in *Ægypt* are as great as Wolves) do carry it and keep it. In the Islands of the Sea of *Æthiopia*, the plenty of it is so great, that the Inhabitants have barter'd a Talent for horses, *Plin. l. 6. c. 36.* This one thing loseth nothing by fire, but the more it burns, it growes the better. Yet the juyce of Lemmons will abate from its weight, *Lemnius occult. l. 2. c. 36.* and if hens limbs be mingled with melted gold, they consume it, *Plin. l. 29. c. 4.* The heat of living Creatures may work upon it, as *Wendlerus* witnesseth *in Prognostic. Anni 1619.* A Senator of *Gorlicum* had a fat Hen, she had eaten about 4. books of leaf-gold beaten out with the hammer. When she was killed, it was found pure within her. In her breast 3. golden streaks were seen, some Artificer was thought to have drawn them, *Schnitzerus Epistol. 56.* writes, that in the stomach of another, that was killed, some moneys were found half consumed. To this adde what *Zacharias à Pateo* affirms in his *Clavis Medica Spagyrica*, and *Chirurgica*; *When*, saith he, *I studied at Padua, it happened, that one of our Hens, flew upon the Table, there were upon it some ornaments for women: amongst the rest a precious pearl, which hung to an ear Jewel curiously made by an Artificer, and it had some golden covers*

drawn

drawn about it, the Hen swallowed this pearl with the ear-jewel; when 4. or 5. hours were past, the Pearl and Jewel were mist. A certain Maid thought the Hen had swallowed it; because some dayes before the said Hen had swallowed one, the Italians *call* Gazetta. *wherefore, the hen was killed, and presently her Gisard being parted and cut, we found the pearl with the earing not yet passed into the cavity of the stomach, but contained in the orifice thereof; extream hot, and yielding to the touch like wax, and the ornaments of it almost consumed by the heat thereof, which Jewel in a short space, when it grew cold, and the heat was gon, became hard, as it was before; the forme was spoiled, and when it was weighed with another earing like it, it wanted a third part in weight.* But to return to Gold. No Mettal is drawn out further, or can be more divided: for one ounce of it will be hammer'd into 750 and more leaves, of 4. fingers broad and long, *Plin. l.33. c.3.* That it may be wire-drawn, and spun without silk, I need not approve of; The Luxury of the Age is well known. *Pliny* lived, when *Agrippina*, as *Claudius*, made a shew of a Sea-fight, sate by him, clothed in a robe of woven gold, without any other addition. Now though it consumes not in the fire, yet it is resolved Chymically, and becomes so aërial, that if it be but stirred with an iron Spatula, or grow hot any other way, it will presently take fire and make a great noise; and one scruple of it shall work more forcibly than half a pound of Gun-powder, *Crollius cited by Sennert. c. 18. de Consens. et dissens. Chymicor.* A few grains of it if they flye down perpendicularly, can strike through a Table of wood, *Quercetan.* The cause is, the contrariety of the spirit of Nitre, and the brimstone of gold: for when as oyl or salt of *Tartar* is poured into the solution of gold, the salt of *Tartar* unites it self with common salt, and also with Allum, and Ammoniac; and hence it is, that gold left to it self sinks to the bottom; and if any of these salts is left with the gold, it is washed off with hot water, *Sennertus de consens. et dissens. Chymic, et Galen. c. 19.* onely the spirit of Nitre is left, which perfectly unites with the Gold. If that therefore grow hot, so soon as it perceives that the Sulphur of gold is there present, it opposeth it self against its Enemy, and breaks forth with a mighty noise, in flame. It hath been long disputed, whether it can be made potable; experience shews that it may. For that famous man Dr. *Francis Antony*, Physitian of *London*, brought it into a consistence like honey, and sent certain portions of it to the Physitians of *Germany* to try it, *Johan. Vincent. Finckius in Enchiridio dogmatico Hermetico.*

Yet *Heurn. l. 1. Aph. 24*, thinks it hath no nutritive faculty, because between potable and solid Gold, there is no difference but the liquefaction; and if a man cannot be nourished by the pure Elements he can hardly be fed with things inanimate and distilled: Also it may be made, nay it was made. *Kelleius* an English man converted one pound of quick-Silver with one drop of a liquor of a deep red colour, into Gold, that with one grain, he tainted 5000, and with one he extracted about ten Ounces of pure Gold, *Sennert. de consens. et diss. cap. 2.* And what *Theophrastus* did, is known out of *Neander*; it is known out of *Oporinus*, *Neander in Geographia*, *Oporinus in Epistolis*. *Nicolaus Mirandulanus*, made an Ingot of Gold out of Brasse, he did it also at *Jerusalem*, and there are so many witnesses, that it were impudence to deny it. *Picus Mirandula Apollinaris* did aver sincerely that he had above 20 ways to make Gold. Hence was made that *Epitaph* at *Rome*, *To the collector of Gold out of Lead.* Some think they may be changed in shape but not in substance, I see not what hinders. The forme of Lead is not turned into Gold; but, that departing, this succeeds. Where there is community of matter, there must be symbolization of necessity. Plants have a perfect form in their kind, yet are they turned into *Chylus*, and it is no sophistication; The forms of things are unknown to us, we know them but by their properties; and, when as they all inhere in that, what place is there for doubting? Yet that is difficult, and to be attempted warily. *Penotus* was an excellent Chymist; learned men know how miserably he was deceived in his old age. His words were, *If there were any man whom he could not hurt by open violence, he would persuade him to turn* Chymist. *Sennert. lib. cit.* It is known to all Men, that divers works are made out of Gold. *Heliogabalus* unloaded his belly in Golden Vessells. *Xerxes* had a Golden Tree, under which he was wont to sit. A King of Ægypt buried his daughter in a Coat of Coffin. *Agricola in observ. Metal.* In lower *Germany*, on *Danubius*, there were Vines that had tendrels and somtimes white leaves of pure Gold, *Alexander.* The cause is assigned, That (there) are Gold Mines, and that Gold grows about their roots, and being bred with it, and hardned by a secret Original, whilst Vines send out their branches, by a wonderfull work of nature or decree of the Starrs, the Gold grows out with them. *Alexander ab Alexandro, l. 4. Genial. dier.*

CHAP. XXVII.

Of Silver.

PUre Silver is dug up in many places, but especially out of two places in *Germany*. So much was dug forth of the Mine at *Sutberg*, that it was worth 1000000 *Rhenish* Nobles. That of *Abertham* afforded 150000 Nobles. About some hundreds of yeares since, the Mine at *Friberg* yeelded enough to buy all the Kingdom of *Bohemia*: *Agricola in præfat. in decem fossil libros ad Henricum Principem Misenæ.* Wherefore Prince *Henry*, neere *Northusa* set a great Tree of Silver, that he might bestow some of the leavs of it, (which were partly Silver and partly Gold) on those Noble Men that had gallantly discharged themselves in fighting on horsback. Somtimes great lumps are dug forth. In the time of *Albertus* the *Saxon*, the pieces were so great, that he used them in the Mines for a Table, saying, *Frederick the Emperour is powerfull and rich, yet he hath not at this time such a Table.* In the Valley *Joachim*, they report that there was a Lump dug forth that

that weighed ten Attick Talents. Nature makes it of many fashions; sometimes like Trees, sometimes like hairs. It is white, yet some hath been found green. Put rude suddenly into the fire, it will leap forth: When black Lead is mingled with it, it is melted in a great vessel, and part is turned into Lead ore, part into Lytharg: but when it burns long, it loseth something, sharp things corrode it; Divers works are made of it. Amongst the *Tectosages* there are made silver Mills. An Historian writes, that the Buckler of *Barchinus Asdrubal* weighed 138 pounds. The History of the Passion was made in pure silver; so were *Hercules*'s 12 labours, brought to King *Ferdinand*. To *Charles* the Emperour a Pillar made of silver. *Cortesius* himself brought it from *Mexico*. The price was 49000 Crowns, *Maiolus de metallis*. I saw *Diana* with a Stag and Hounds made of silver, with a Dial on the back-part, and there were many kinds of Insects about it cast very exactly. That it stood upon, was like a Table with many wheels. It ran, and their heads seemed to shake as they were turned back. *India* is chiefly fruitfull of silver. The Mines of *Potosium* are known. Geographers will direct you, *Bertius in Geograph.* Also the Treasures of *Spain* are known. They that are acquainted with it, have written, that 9 times a hundred 45 millions of Crowns have been brought thence, *Boterus in Hispan. descript.* If there be a fifth part of silver to five of gold, it makes *Electrum*; of which formerly they made *Calices*, because it would discover venom. For bows like the Rainbows will run up and down in these cups with a fiery crashing, and so foreshew it two wayes. By the light it is clearer than silver, *Plin. l. 33. c. 4.*

CHAP. XXVIII.

Of Quicksilver.

IT is found pure in the Trenches, when *Cenoble* is washed with waters dropping from the veins; for so it is collected and turned into Quicksilver. The same dryed turns again to be like Vermilion, very plentiful. Fountains run in the veins of it, and the grasse growes very green upon it, *Vitruvius l. 8. c. 3.* For they that search for the veins of it, in a clear morning in *May*, they observe the clowds comming forth of the Tops of the Mountains, and hanging like wooll upon the grasse. It hath a marvellous sympathy with gold, *Plater. l. 2. de. f. c. 3.* If it be in the body, it is drawn forth by drinking of gold. Silver cannot be gilded without *Mercury*. It is a wonder, that if one be anointed for the French Pox, let him have a gold ring in his mouth, and with his tongue roll it up and down, the Quicksilver in the body falls to the ring, it is taken out like silver, it is recovered by putting it into the fire, *Lemnius l. 2. de occult. c. 35.* When all other things swim upon it, only Gold sinks into it. It so flyes the fire, that if it can not go downward, it will fly upwards: and being shut in, it breaks the

the cover, *Renzer. l. de Mere. c. 1. 2.* Put into a ring, and put to the fire, it makes it leap. Bread in the Oven, Pease in the Pot, Eggs at the fire, if they be touched with a drop of it, will make men laugh by their dancing. The fire will make it fly into a vaporous smoke, but it is not dissipated. For, received and kept in a vessel, it shortly returns to Quicksilver again, and loseth nothing of its weight. Powred on a a plain body, it moysteneth not, and therefore men think it is dry. That is false; for nature makes it round, and it is hindred from sticking by the lead Ore that surrounds it, *Palm. Constant. de morb. Contag. l. 3. c. 4.* It alwayes moves. The terrestrial part is excellently well concocted, the ayr and spirits are the cause of it, for they are so shut in, that they cannot get forth; because they strive to get out, they are moved, *Mare. l. 4. c. 6.* The use of it, is divers. The *Moors*, when as all things are burnt by the heat of the Sun, pour that into a Vessel, and casting a skin upon it, they lye down upon that and cool themselves: Put into the ear, and so into the brain, it causeth the Falling sicknesse. For it dissipates the animal spirits, *Hetrn. de cap. aff. c. 23.* Water wherein some Quicksilver hath been infused, if it be strained and drank, wonderfully drives forth Worms. Midwives when women have been long in labour, for the last remedy give them a scruple of Quicksilver. Put into a hazel nut-shell by a hole, and so fastned in, and tyed about ones neck with a red silk, it preserves one from the Plague, *Quercet. l. 2. pest. alex. 5.* There have been so many experiments of it, that we must needs commend it before other remedies. If it hang down to touch the belly, it is singular against the Cholick, *Plater. de dol. c. 13.*

CHAP. XXIX.

Of Brasse and Alchimy.

PUre *Brasse* is found both in its own Mines, and amongst silver Mines. The lumps are dug forth of divers fashions, like Icicles, globes, rods. In shops where they separate brasse from silver, it is yellow and red, which they call regular; duskish red they call Cauldrons mettle, *Agric. in lib. Fossil.* That is softer, and may be dilated and not melted onely; this will melt, but not be drawn: with the tincture of *Cadmia* it will look like gold, and is called *Alchymy*. It melts and runs in the fire, but in a great crucible it will not endure the force of the fire, nor yet put *alteration* with things that purge silver and gold, but will be consumed wholly. It will not corrupt, and keeps other things from corruption. Hence saith *Horace*, (A Monument more lasting than brasse) and therefore the *Egyptians* seem to have put plates of brasse into the Carcases of dead bodies. *Pierius in Hieroglyph.* testifies, that they were wont to stick sharp Spears of Brasse into dead bodies. *Camerar. hor. subcis. cent. 1. c. 14.* saw such Images at *Venice* with *Lauredanus*. The son of *Lauredanus*

damus affirmed, that they were taken out of the bodies of men that were embalmed. There are divers works made of Brasse. The hundred gates of *Babylon* are celebrated in records; and that brasen cup of 900 Gallons which the *Lacedemonians* gave to *Crœsus*. At *Florence* the Chappel of St. *John Baptist*, which they call the Font, hath three brazen doors gilded. The *Colossus* of *Rhodes* was made of the same metal, it was 76 cubits high. Fifty years after it was thrown down by an Earthquake, and lay many years for a miracle, *Plin. l.* 34. *c.* 7. Few could fathom the thumb of it, the fingers were longer than most Statues. Vast Caves were seen when the limbs were broken. There were within it mighty great stones: by the weight of them he that made it, made it stand fast. They say it was 12 years making of 300 Talents. It was one of the Seven Wonders of the World.

CHAP. XXX.

Of Lead.

LEad is of 3. sorts, white, ash-coloured, and black. The first is not found of its own colour, but the stones are whitish of which it is made. Cerusa is made of it corroded by the steam of vinegar. The ash-coloured is dug up at *Sneberg*. When silver is boyled out of it, the fire consumes it all. Of the black are made square vessels, in which salt is boyled from salt water, from nitrous water, Nitre, *Agricol. in observat.* These filled with liquor, and set in the Ayr, foreshew rain, if there be drops on the outside. There is nothing hotter than it, yet if you anoint your hands with the juice of Mallowes or Mercury, you may wash your hands in melted lead, so you do it quickly with swift motion, *Lemnius l.* 2. *de occult. c.* 34. It is heavier than silver, yet will swim upon it being melted. It may be, the volatil parts of evaporating Lead fly away by the fire; but the silver not evaporating, sinks down, *Libavius l.* 2. *Epist. Chym. Ep.* 98. It is said to increase in weight and magnitude, if it be hid in Cellars, where the Ayr is troubled, so that what is put there, presently gathers rust. The Leaden bands of Statues that bind their feet, are sometimes found to grow, and to swell sometimes so much, that they will hang like Crystal out of the stones. Experience hath proved it to be unfit for Medicament, *Fernel. lib. de lue Vener. c.* 7. For when as one by the advice of an Emperick, had eaten half a pound of the powder of it with his meat in 15 dayes, to cure the joynt Gout, those things that were taken in, had a nidorous taste of Lead; and what was voided by stool, looked of Lead colour. Yet it is found also to be for externall medicinal use. For it cools. Wherefore both Mortars and Pessels are wont to be made of it, in which if Liquors are beaten, what comes by the mixture of both is very cooling. The plates are good to lay to the loyns over-heat with venery, and against nocturnal pollutions in dreaming. *Calvus* the Orator, did prevent lust therewith, that

that he might preserve his strength for his study, *Pliny*. Musicians were wont to lay them upon their breasts, to sing the lowder, *Isidorus*. *Nero* had a plate of Lead to lay upon his breast when he slept, to preserve his voice, *Suetonius in Nerone*.

CHAP. XXXI.

Of Iron.

THe Mine of Iron is the greatest of all Mettals. On that part of *Cantabria* which the Sea passeth by; there is a Mountain, high and cragged, it is incredible to speak it, it is all of Iron Ore; *Plin. l.* 34. *c.* 14. It is rare in *India*. Hence they write that 14. pounds of Iron, at the Island of *Zabur* have been barred for 250. pounds of Gold. *Pegassetta*. It was formerly found in *China*, called *Azzalam Indicum*, of such an excellent temper in the edg that it would cut any Iron, *Pancirol. l. de novis repertis*. Digged up in *Sicilie*, and *Lusatia*, it grows again, and the earth and stocks of Trees, as it grows, become Iron. First it is like a thick liquor, and by degrees it grows hard, *Agricola in observat. metal.* When it is boyled, it becomes moyst like water, afterwards it is broken into Spunges. The more tender Iron instruments, are steeped in oyle to quench them, lest they should grow too hard and brittle with water. *Plin. lib. citat.*

But in the Island *Palmosa*, it cannot be melted, & also in *Ethalia*, *Strabo. l.* 15. *Bertius in Descript. Ilvæ*. Smeared with Alum and Vineger it becomes like brasse. At *Smolnicium* (it is a Town of the Mount *Carpathum*) water is drawn out of a pit, and it is powred into Pipes, laid in a threefold order, and that pieces of Iron in them, turn into brasse. *Agricol. de metal.* But the piece of Iron that is put into the end of the Pipes, is eaten by this water, that it becomes like mud; that afterwards boyled in a furnace becomes good Brasse. It is most agreeing with all Copper, that it will mingle with it in melting. The Poets call these *Mars* and *Venus* in their Fables, *Minder. de Vitriolo, c.* 1. *Aristonides*, when he would expresse the fury of *Athamas* who would throw down headlong his Son *Cleodrchus*, and when he had don so, the manner of his sorrow; he mingled Brasse and Iron, that the rust of it shining through the brighter Brasse, might expresse his shame and bashfullnesse, *Plin. lib. citat.* Plunged fiery hot in water, it becomes Steel; in Vinegar, it will endure no hammering, but will sooner break than draw. Hence the *Lacedemonians* who were wont to make their coyn of Iron Rods, steeped them red hot in Vinegar; that, being brittle, they might never be put to any other use. *Plutarch in Lycurgo*. If you seek a reason, we say that Vinegar goes into the heart of the Iron; *Bodin. l.* 2. *Theatr.* In Furnaces where they make it into bars, there rise such Vapours from it, when it is hammerd, that a certain powder increaseth sensibly, and multiplyes sticking to the walls. *Albert. Mag. in libro de Animal.* It is

so strong that it can never be consumed by fire. In the new World there is an herb called *Cabuja* or *Hentquen*; of the leavs of it, there is a reddish string, that with sand will cut Iron. *Ovetan. Histor. l. 7. c. 18.* Iron scales are very drying, they put it in their shoos that have sweating feet. The best Iron is most white and light, and hath little branches, somtimes like to Corall, somtimes bound together with very fine strings. They make bullets of it, for great Guns.

CHAP. XXXII.

Of Fossil Flesh.

ANdreas *Libavius*, a Man exceedingly deserving in Philosophy and Physick, saith, that it was reported on the credit of the *Jesuites Schroterori*, that at the rampire of *Erfurd*, by the port of St. *Andrews*, upon occasion of raising the Bulwark higher; that great pieces of raw flesh were dug out of ground, and that it was brawny; much like to Oxe-flesh, (only it had no bones): *Hubnerus* affirms this in *Epistol. ad Libavium.* But because those that dug it up prated that they could find it only upon Thursdays, wise men began to suspect the matter, and having discovered the fraud, the deceivers were cast into Prison. Though fraud here may be objected; yet it is not against reason to say with *Libavius*, that there may be fossil flesh. Most true it is that the Earth, (I add the water also) is the Mother of some living Creatures, and of those imperfect ones that came by aquivocall generation; and by the mixture of both these, Clay may be made fit for the breeding of an animall principle, which somtimes becomes a perfect Creature, and somtimes is deficient. As in the kinds of perfect Creatures, somtimes rude lumps are bred, somtimes provided with that supplies their defect. If that be first, and yet, helps being present, it is not frustrated of its motion; it is likely that a Mole of clotted blood or somthing like flesh should be made: no otherwise than as matter disposed with it for a bone, becomes a bone, which is called Fossil Horn. So Histories relate, that shell fish have been found in the tops of the highest Mountaines of sand, from Marle and Marble putrified: which though some think they are the reliques of the General flood, yet is it not probable, that they could last so long, by reason of the injury of time. For Marble it self will at last dissolve. And if you think it absurd that a Creature with blood should proceed from matter that is without blood; I could by examples shew your absurdity. When *Nilus* sinks down, living Creatures are bred of the mud by heat of the Sun; some perfect, some half perfect, sticking to the Clods, *Diodor. Sicul.* A Venemous frog is bred deep within the Earth, where you can see no holes, when as the sutures of stones are broken with wedges, *Agricola.* Of the rayning of blood and flesh there are many Histories, and that came not by the Sun, drawing blood from Carkeises, but by changing the humour so disposed. In

a ditch of the Town *Berchelstein* beneath out of a Willow, stinking blood ran. At *Spira* they say it came forth of bread. At *Suidpicium*, a bloody Fleece of Snow fell down like hail. What shall I say more? The Chymists say that of *Satyrium*, great Comfrey, Tutsan, Bread and Wine, a juyce may be made that is perfectly blood, which by due digestions may be made into substantial flesh. Of Brimstone boyled in Linseed Oyle, they make a Masse like a Liver. Lastly the fowls in the Orcades are said to be fruits of Trees. You shall see it proved in the appendix of the sixth Classis. Wherefore we conclude with *Libavius*, that there may be Fossil Flesh; and with this discourse we will shut up this Classis. Setting aside those things that may be said concerning Devill in Mettalls, which we shall speak of in our *Thaumatographia Pneumatica*, which if God pleaseth, we intend to publish.

I add one thing that I had forgot. When *Henry* the 2. King of *France* was at *Bononia*, there was brought to him from the *East Indies* by an unknown person, but, as it appeared by his gesture, a *Barbarous fellow*, a stone of a wonderfull shape and nature, for it shone with light and clearnesse exceedingly, and it seemed as if it were all on fire, and turn it which way you would, the lustre of it so enlightned the ayre with its beams, that they could hardly endure to look upon it: And this was strange in it, that it could endure no earth upon it, but if it were covered with it, it would break forth with violence of its own accord: no art of man could hold it in a narrow place, for it delighted in the spacious Ayre, it was exceedingly pure and bright, no filth was upon it, it had no certain figure, but was inconstant, and changed in a moment; and being so beautifull to behold, yet it was not safe to touch it, and those that dealt roughly with it to hold it, felt the inconvenience, as many that stod by can testify. If any part were broken off from it, by contending with it, for it was not very hard, yet the vertue of it was very usefull for many things, and the Stranger said it was needfull chiefly for Kings. He boasted much of the miracle, but refused to discover it, unlesse he might first receive a mighty reward. *Thuan* saith, that he delivered these things as they were in Leters of *John Pipin* an eye witnesse of it: who in the Family of *A. Mamorantius*, *M. E.* professed Physick; and sent his Leters to *Antony Mizaldus* a famous Physitian; also, to *Bononia*, on the day before Ascension day, and saith, he leaves the matter to Philosophers to discusse farther. For *Pipinus* in his Letters, neither said that the Antient knew any such stone, nor do I affirm it. *Thuan, l. 5. Histor.*

The End of the Fourth Classis.

OF

OF Naturall VVonders.

The Fifth Classis.

Wherein are the Wonders of Plants.

NAture, daily breeds Flowers and Sents; it is evident, that men are much admonished thereby, that those things that flourish most delightfully, do soonest wither. Plin. l. 21. histor. Natural. c. 1.

CHAP. I.

Of Plants in generall.

WE have seen the Wonders of things without life; Now let us see the Wonders of living Creatures. *Plants* are first in order; not that they are the chief, but because they have that degree in common to all living Creatures. They have a vegetative soul, producing the nutritive, augmenting, and generative faculties, with all things subordinate to them. And besides, each hath a specificall form of its own Being, works by it, and is distinguished from others. Nature hath made up their bodies of certain parts, which Philosophers call the kernel, the pith, the bark of the root, the stock, the boughes, the branches, the flowers, the fruit. As these vary, so is there very great difference in Plants. The Earth is their Mother, their faculty was given by creation; and because qualities are different, it is found very various in Plants also. *Moses* speaks expresly, *Let the Earth bring forth grasse, the herb yielding seed, and the fruit tree yielding fruit after its kind, whose seed is in it self upon the Earth.* But *Porta* (*l.2. Phytogn.c.1.*) when he had heaped up much ground together, which was cast forth from the foundations of houses, and laid it open to the Ayr; a few dayes after, from the divers qualities of the Earth, divers sorts of herbs sprang forth. He saw these things familiarly in *Naples* climat and

and grounds, some of them must needs marry. The principles of Male and Female are mingled in them. But that which *Pliny* writes is false, that they are begot by the West wind. They wither that fructifie most, for their nourishment is consumed; and beyond St. *Thomas* Island, the South wind onely is said to blow, elsewhere onely two winds by courses: And it is certain, that all kinds of Plants do not grow in all places. For near *Rome* Chestnuts will hardly grow: and about *Cimmerian Bosphorus*, in the City *Particapæum*. King *Mithridates* and the rest of the Inhabitants wanted the Bay and Myrtill Tree in their solemnities. Some new Plants are found in new-found places, as Tobacco lately in *America*, wild Tobacco was found in the Woods of *Thuringia*, *Libavius l.4. de orig. rerum*. *Anaxagoras* ascribes it to the ayr that hath in it the seeds of all things, and sends them down in showrs, and they become Plants. *Diogenes*, to the waters putrifying and mingled with the earth. Others to the winds, bringing them. We ascribe them, to Divine providence, which did not produce each individual plant, but disposed of the best in Paradise, and left the rest without, endowing some with virtues to come forth into the light at their set times. As for their Life, they live by heat in the earth, and dye with cold. *Theophrastus l. 2. de Plant. c.4.* testifies, that some of them will spring again; if an Olive Tree be burned to the root, it will grow again: Some will live without the ground, as Onions and Garlick, which being many moneths from the Earth, grow without any nutriment from thence, being fortified by much grosse humour of their own, *Marcel. l.4. histor. medic. mir. c.12.* The forces of Plants are wonderful. It hath been observed, that if men with wands travel where ill Plants grow, the Ulcers will be inflamed, and cured where the Plants are healthful, *Mathiol. in Dioscor. Præfat.* By touching of Spleenwort, Splenetick people have been helped; and Jaundy-sick, by putting Celandine to their naked feet in their shoes. No man shall be troubled with blear-eyes, so long as he keeps very clean by him the root of the wild sowr Dock. He shall not be troubled with the Strangury any more, who quencheth in his urine the burning root of Tamarisk. Physitians do diversly dispose them; the Chymists teach us to know them by their signatures; and *Porta* of *Naples* thinks, that it is certain, that what part of Man they resemble that they are good for, *Sennert. de cons. Chym. c. 18.* But of these, more hereafter if God please. Now let us see Nature prodigall in Plants, and opening her Treasures, let us admire with thanksgiving.

CHAP.

CHAP. II.

Of Wormwood, Woolfsbane, and Snapdragon.

WOrmwood is in many things a wonderful Plant, it is very bitter, yet the distilled water of it is sweet. Hence the Commentators on *Mesues* think, that the intrinsecal parts are sweet: but the matter must be ascribed to the thinnesse of the outward parts; for, these being soluble into a vapour, being more attenuated by heat of the fire, are easily resolved, and abate of their bitternesse, *Mathiolus in Dioscor. c.24.* The Lye out of which the salt of it is prepared, will so benum the hands, that they almost lose their feeling, *Mathiol. de febrib. pest.* It is credible, that if Infants before they be 12 weeks old, be anointed with the juice of Wormwood on their hands and feet, that neither heat nor cold will ever trouble them during their life: and if the whole body be anointed, they shall never be scabby, *Gwerth. in Append. ad memorab. Mizaldi.* *Wolfsbane* is the quickest of all venomous things; for if it touch but the secrets of a woman, it kills her the same day. This was the poyson, that *Mar: Cæcilius* objected, that *Calpburnius Bestia* killed his Wives with, when they were asleep: hence it is that he so sharply declamed against him, that they dyed by his hand. Yet experience teacheth, that this may be made use of for mans good, and against the bitings of Scorpions, given in hot wine, the nature of it is to kill Man, unlesse it find some venome in him to be destroyed. Scorpions are stun'd by the touch of it; and being astonished, shew by their paleness that they are subdued. White Hellebore helps them by its resolving touch, and *Wolfsbane* yields to two evils, to that which is evil to it self, and to all others, *Pliny*. But *Snapdragon* is so contrary to them, that the sight of it stuns them: but whilest some by this Amulet hope to procure Princes favours, they are deceived, *Mathiol. in l.4. Dioscor. c.128.*

CHAP. III.

Of Aloes, Agallochum, and Camomill.

Scaliger had found by above 40 years tryal, that *Aloes* hurts the Liver, *Exerc. 160. Sect. 3.* They whose veins swell, or are opened, if they take never so little of it, it will certainly go thither; for it will adde something of its own to open these vessels. But *Agallochum* is Aloes wood so excellent, that cast into water, it will not swim at all, but sinks presently. When it is cut from the Tree, the Inhabitants bury it a whole year, that the bark may wither under ground, and the wood lose nothing: and they think it will never be so sweet, unlesse it first be worm-eaten, *Simeon Sethi citante Mathiolo.* *Camomill* is so

so like to May-weed, that you cannot know them asunder by sight, but onely by smell. This stinks, and bound on will presently blister the skin. The flowers of Camomil taken without the leaves, and beat in a Mortar, and made with oyl into balls, if they be dissolved in the same oyl, and those that have Feavers be anointed therewith from the crown of the head, to the soles of the feet, and be presently covered with blankets to sweat; if they sweat plentifully, it cures them of their Agues. This is *Nicetesius Ægyptius* his receipt, *Mathiol. in Dioscorid. l.3.c.137.*

CHAP. IV.

Of Ammi, Holly, Ceterach, and the Strawberry-Tree.

AMmi, if it be the right seed that comes from *Alexandria*, it cherisheth Womens fruitfulnesse: if you drink of it a dram weight in the morning every other day, 3. hours before meat. Yet in those dayes they must not lie with their husbands, as *Mathiol. in 3. Dioscor.c.61.* With the flowers of Holly, water congealeth; and a stick made of it, thrown at any living creature, though it fell short by the weaknesse of him that threw it; yet of it self it will fall nearer to him, *Plin. l.22.* *Ceterach* growes in *Crete*, by the River *Poterem*, that runs between two Cities *Enosa* and *Corlina*: it destroyes the Spleen in Cattel, that eat it; thence it hath its name Spleenwort. In a certain place that lyes toward *Corlina*, this Spleenwort is found in great abundance; but it is otherwise toward *Enosa*, for there growes none. In the wrong side of the leave of it, there is found a precious powder, which being given one dram weight, with half a dram of the powder of white Amber, in the juice of Purslane, cures the *Gonorrhæa*. The *Strawberry* Tree flowers in *July*; the buds by a singular hanging together, are joyned in clusters at the utmost end, each of them like a long form'd Myrtil berry, and as great, without leaves; hollow, as an Egge made so, with the mouth open; when it fades, what hindred is perforated, *Theophrast. l.3. c.16. de Plantis.*

CHAP. V.

Of the Cane reed, Asserall, and Agnacath.

IN *Zeilam* the Reeds are so large, that they make boats of them severally; also they make Javelins of them; As in the Kingdom of *Pegu*, they make Masts and Oars of the *Myoparones*: Certain it is, that they are some of them 7 foot about, *Scaliger Exerc. 166.*

Mathiolus writes, that in *India* they grow so great, that between every knot, they serve for Boats to sail in Lakes and Rivers, for three Men

Men to sit in them. *Mathiol. in Dioscorid. l. 1. c. 97.* Between the *Reed* and the Fern there is a deadly feud, and they say that a *Reed* tied to the Plough destroys all the Fern that growes there. It agrees with Sparagus; for if they be sowed in Reedy grounds, they increase wonderfully. *Mathiol. l. citat.* The *Turks*, going to battle, devoure *Asserol*, and by that they grow merry and bold against dangers; Juglers use this often on their Scaffolds. They mingle a Medicament with Wines, that will draw their mouths together: and whom they would put a trick upon, they bid him dip his finger in and suck it; he putting this into his mouth, cannot for pain suck it. The Juglers, as if they pitied him in this case, annoint the arteries of his wrists and temples with some peculiar Oyntment. When he is recovered, like one that comes from Sea after Shipwreck, he winds his hair and garments as if they were wet, and wrings them out, he wipes his Armes, blows his Nose. *Scaliger Exerc. 159.* *Agnacath* is a Tree like a Peare Tree, and as great, allwayes with green leaves, and very clear in the outside. It makes men so lusty that it is miraculous. Kin to this, is a root in the Western Hills of *Allas*, the Inhabitants call that part *Surnaga*. The eating of it gives wonderfull strength for *Venus*; they say if a Man make water on it, he is presently provoked. If Virgins do but sit on them in the fields; or Urine upon them, the Hymen is presently broken, as if they had known a Man. *Scalig. Exerc. 175. s. 1.*

CHAP. VI.

Of the Scythian Lamb, the bashfull Plant, and Amsia.

THe *Scythian Lamb* is a Plant that comes from a seed like a Kernel, but not so long. The *Tartars* call it [illegible]. It growes like a Lamb about three foot high; and is like a Lamb in his feet, claws, ears, the whole head, except the Horns. For Horns, it hath hairs, is singular like a Horn, and a very thin Horn covers it, the inhabitants take it off, and use it for cloathing. It is of a wonderfull sweetnesse; Blood runs forth of the wound. As long as other hooves grow about it, so long it will live. It dies, when these are gon. Wolves desire it, but other beasts that feed on flesh, do not. *Scaliger Exerc. 181. sect. 2.* The Bashfull-Tree draws back, if you but touch the leaves with your hand. *Apollodorus Scholiast* to *Democritus*, discovered that *Amsia* is a medicament amongst the *Indi*, of wonderfull use. They that are not used to it from their Childhood, if they eat it afterwards, it kills them. Also it kills those that are used to it, and then leave it; but hurts not those if they continue it. The women of *Cambaya*, when they would avoid punishment, feed of it, and dye without pain. The King of Province fed with this from his young years, grew so Venemous, that the very flies that but suckt his skin swelled and died with it. It is thought to be Opium, and the Turks

Maslach,

Maslach. Through *Turnheuserus herbar. l. 1. c. 29.* saith, that by the secret relation of the Turks, he learned that this was made of the juyce of Leopards bane, yet it is nothing else, but *Opum*, as *Scaliger*, *Poterius*, and *Johannes Baptista Sylvagius*, interpreter for the *Venetians* with the *Turkish* Emperour, do testify. He being demanded by *Bucretius*, reported that the *Turks* have two medicaments, to make them merry, *Afra* and *Bongelie*; That prepared of *Opium*: this with Honey, and the leaves and seeds of hemp powdred and used frequently. This will make them undergo any dangers, for it makes them frantick; and if they sleep, they dream of the fighting of Gyants, and fires, and Cities burning.

CHAP. VII.

Of Balsome Tree, and Betel.

BEfore these times, in *Judæa* the *Balsom Tree* yielded great profit, and there was an Orchard of it in two Kings dominions; one of 20 Acres, the other not so many; but now there is none to be found. It is probable that the Kings of Egypt transplanted it into their own Gardens, as being jealous of their greatnesse; *Plin. l. 12. c. 25.* In grand *Cairo* there is a Garden of *Balsom* Trees, the leaves like Rue leaves alwaies green. The Gum of it is gathered in the Trunk of it, making incision at the upper part, with Iron; When the Sun is hottest, that which remaines is not much. For a man can hardly fill a Cockle shell in a whole day. *Theophrastus, l. 9. c. 6. de plantis. Pliny* writes, if it be cut with an Iron, it presently dies, and therefore they that gather *Balsome*, use Glasse, Stone, and Bone-Knives to cut the Bark, and taking the juyce in wool, they collect it in little Hornes. That which is Indian or Occidental, is brought out of the *West Indies* into *Spain*. It is the liquor of a Tree called *Xilon*; the bark of it, which is thinne being cut, a clammy whitish liquor in small quantity flows forth, which the Inhabitants preserve. Also the boughs and roots cut into pieces, very small like Chips, and boyled in a Cauldron with water, when it is cold, yeilds the same. From Shell-fish they collect an Oyle that swims at top, that is red from black, of a most sweet smell, a sharp taste and somwhat bitter. A pound of it in *Spain* is sold for three Dudates, whereas an ounce was wont to be sold for 10 or 20. *Bauhin in Dioscorid. Betel* it leafe called so from the River, which runs not far from *Cambaya*, it grows from a Plant that is wrapt with others and wants propping; it hath neither flower nor juyce. The *Indians* feed daily on it, which they are at leasure; for they think when it is green that it promotes venery; It makes their lips red, and their teeth black. *Mathiol. l. 4. Dioscorid. c. 2.* It troubles their minds if they eat of it too freely; therefore the women of *Tarnassarim*, to lament for their Husbands, eat it till they grow mad, and so they run into the fire, and are burnt with them. It is sprinkled with water made of lime, from Shells of Fishes; and then they eat it, *Scaliger, Exerc. 1. 46. s. 2.*

CHAP. VIII.

Of Betonie, Birch and Box.

BEtonie is said to defend consecrated places and graves from fearfull apparitions; and is so forcible, that it will draw forth broken bones; bruised with a little salt, and put into the nose, it stops the bleeding of it, *Mathiol. in 5. Dioscorid. c. 1.* *Birch* loves to grow in a cold and Snowy Country. The stalk pierced with a piercer sends forth abundance of most clear water, it is good to break stones in the Reins and Bladder, if it be long drank. *Mathiol. l. 1. c. 93.* The *Ananii* take of the bark of it, and wrath it, and make Candles of it to burn at night, which because they abound with a Pitchy fat, they burn like Torches, and give the colour of Rosin like Pitch. In the Boxwood there is a kind of narcotick force, and a sleepy sulphureous matter. That is apparent from the stinking smel of it, and the ground it delights to grow in. For it breeds in Mountaines and stony grounds, and prospers there, and drinks in a most stinking Brimstone. From the rasping of it, a water is distilled like the spirit of Vitriol. The greatest Tooth-ach is allayed, if you dip a Tooth-picker into it, and thrust it into the root of the aking Tooth, and that so suddenly, that by miracle almost, and by way of a Charme, the pain is presently gone. *Quercetan. Tetradyn. 1. c. 6.* The flowers are said so to purge the blood, that if one dram thereof be given with field Poppy water, and blood be drawn a hour after, it will run clear; *Petreius in Nosol. Harm. discurs.*

CHAP. IX.

Of Batat, Baxera, Brusathaers, and Bagras.

BAtat is a root like a Turnep, with a black rind, it spreads underneath, as it were by Armes; The colour of the Pith is various, and so it is divided into divers kinds, but the worst is the yellow. It is planted wonderfully; for it is set not with the root, but like the Olive, by a Slip, the twig, being cut into several parts, is set, yet some of the rind must be left. They set it like the Vine and prop it up, for the fibres of it, run about like hops. In the fifth month it is ripe, *Scaliger, Exerc. 181. s. 17.* *Baxera* is a Tree in the Kingdom of *Bella*, which is neere to the *Tartars* of *Cathay*. The root of it raw kills one presently. The fruit of *Nibadul* is a remedie for the mischief of it. It drives away any Poyson whatsoever, *Scaliger, Exerc. 153. s. 6.* *Brusathaers* are Sea-Trees in the Sinus of *China*. So great

Maslach. Though *Turnheuserus herbar. l. 1. c. 29.* saith, that by the secret relation of the Turks, he learned that this was made of the juyce of Leopards bane, yet it is nothing else, but *Opum*, as *Scaliger*, *Poterius*, and *Johannes Baptista Sylvagius*, interpreter for the *Venetians* with the *Turkish* Emperour, do testify. He being demanded by *Bucretius*, reported that the *Turks* have two medicaments, to make them merry, *Asra* and *Bongelie*; That prepared of *Opium*: this with Honey, and the leaves and seeds of hemp powdred and used frequently. This will make them undergo any dangers, for it makes them frantick; and if they sleep, they dream of the fighting of Gyants, and fires, and Cities burning.

CHAP. VII.

Of Balsome Tree, and Betel.

BEfore these times, in *Judæa* the *Balsom Tree* yielded great profit, and there was an Orchard of it in two Kings dominions; one of 20 Acres, the other not so many; but now there is none to be found. It is probable that the Kings of *Egypt* transplanted it into their own Gardens, as being jealous of their greatnesse; *Plin. l. 12. c. 25.* In grand *Cairo* there is a Garden of *Balsom* Trees, the leafe is like Rue leaves alwaies green. The Gum of it is gathered in the Trunk of it, making incision at the upper part, with Iron; When the Sun is hottest, that which remaines is not much. For a man can hardly fill a Cockle shell in a whole day. *Theophrastus, l. 9. c. 6. de plantis.* *Pliny* writes, if it be cut with an Iron, it presently dies, and therefore they that gather *Balsome*, use Glasse, Stone, and Bone-Knives to cut the Bark, and taking the juyce in wool, they collect it in little Hornes. That which is Indian or Occidental, is brought out of the *West Indies* into *Spain*. It is the liquor of a Tree called *Xilon*; the bark of it, which is thinne being cut, a clammy whitish liquor in small quantity flows forth; which the Inhabitants preserve. Also the boughs and roots cut into pieces, very small like Chips, and boyled in a Cauldron with water, when it is cold, yeilds the same. From Shell-fish they collect an Oyle that swims at top; that is red from black; of a most sweet smell, a sharp taste and somwhat bitter. A pound of it in *Spain* is sold for three Dudats; whereas an ounce was wont to be sold for 10 or 20. *Baulin in Dioscorid.* *Betel* is a leafe called so from the River, which runs not far from *Gambaja*; it grows from a Plant that is wrapt with others and wants propping; it hath neither flower nor juyce. The *Indians* feed daily on it, which they are at leasure; for they think when it is green that it promotes venery; It makes their lips red, and their teeth black. *Mathiol. l. 4. Dioscorid. c. 2.* It troubles their minds if they eat of it too freely; therefore the women of *Tarnassarim*, to lament for their Husbands, eat it till they grow mad, and so they run into the fire, and are burnt

burnt with them. It is sprinkled with water made of lime, from Shells of Fishes; and then they eat it, *Scaliger, Exerc. 1. 46. f. 2.*

CHAP. VIII.

Of Betonie, Birch and Box.

BEtonie is said to defend consecrated places and graves from fearfull apparitions; and is so forcible, that it will draw forth broken bones; bruised with a little salt, and put into the nose, it stops the bleeding of it, *Mathiol. in 5. Dioscorid. c. 1.* *Birch* loves to grow in a cold and Snowy Country. The stalk pierced with a piercer sends forth abundance of most clear water; it is good to break stones in the Reins and Bladder, if it be long drank. *Mathiol. l. 1. c. 93.* The *Ananii* take of the bark of it, and wreath it, and make Candles of it to burn at night, which because they abound with a Pitchy fat, they burn like Torches, and give the colour of Rosin like Pitch. In the Boxwood there is a kind of narcotick force, and a sleepy sulphureous matter. That is apparent from the stinking smel of it, and the ground it delights to grow in. For it breeds in Mountaines and stony grounds, and prospers there, and drinks in a most stinking Brimstone. From the rasping of it, a water is distilled like the spirit of Vitriol. The greatest Tooth-ach is allayed, if you dip a Tooth-picker into it, and thrust it into the root of the aking Tooth, and that so suddenly, that by miracle almost, and by way of a Charme, the pain is presently gone. *Quercetanus Tetrad. l. 1.* The flowers of it are said so to purge the bloods, that if one dram thereof be given with field Poppy water, and blood be drawn an hour after, it will run clear; *Petreius in Nosol. Harm. discurs.*

CHAP. IX.

Of Batat, Baxera, Brusathaers and Bagras.

BAtat is a root like a Turnep, with a black rind, it spreads underneath, as it were by Armes; The colour of the Pith is various, and so it is divided into divers kinds, but the worst is the yellow. It is planted wonderfully, for it is Scored with the root, but like the Olive, by a Slip, the twig, being cut into severall parts, is set, yet some of the rind must be left. They set it like the Vine and prop it up, for the fibres of it, run about like hops. In the fifth month it is ripe, *Scaliger, Exerc. 181. f. 17.* *Baxera* is a Tree in the Kingdom of *Bram*, which is neere to the *Tartars* of *Cathay*. The root of it doth kill one presently. The fruit of *Nitabuli* is a remedie for the mischief of it. It drives away any Poyson whatsoever, *Scaliger, Exerc. 153. f. 6.* *Brusathaers* are Sea-Trees in the Sluus of *China*; So great

great are they, that birds of wonderfull bignesse do lodge in them. They are so vast, saith *Scaliger*, that the greatest Creatures may be born up by them, and taken above ground. *Scalig. exerc.* 181. *s.* 10. *Josephus* writ of *Baaras*. *In a valley*, saith he, *where the City is compassed on the North side, there is a certain Lake called* Baaras, *where there is a root called by the same name. It is of a flame colour, and about the evening, it shines like the Suns beams. Those that come to it, and would pul it up, cannot easily do it, but it draws from them; nor will it stay, untill some body powre the urine of the menstrual blood of a woman upon it. Also, then if any one touch it, it is certain death, unlesse he carry the same root hanging in his hand. It is taken an other way without danger, which is this; They dig round about it, so that very little of the root be covered with the Earth, then they tye a dog to it, and he striving to follow him that tied him, pulls the root out very easily; but the dog allwaies dies, as in place of him, that should take it up: for after that, there is no fear for any man to take it up.* It seems to be a Fable, unlesse there be some other meaning in it.

CHAP. X.

Of Cachi, Cacavate, Cassia, our Ladies Thistle, and Corallina.

Cachi is a prickly Tree in *Malabar*; they call the fruit of it *Cieca-ra*; It is like the Pine-nut; for within, the seve all divisions are distinguished by Membranes, as in the Pomegranate. The Apples are like figs in shape, and sweetnesse, without any rind: there are 250, and sometimes 300 upon them; *Scalig. exerc.* 181, *s.* 12. Amongst these small fruits, there is another like a Chesnut, and cracks like it, when it is rosted. The fruit grows forth of the stock, as it doth on the Mulberry Fig-Tree, between the prickles and the leaves. Sometimes, which is the greater wonder, it comes forth of the root under ground, and it brings forth but one Apple, but so great that it will load a strong Man, *Maiol. col. de Plant.* *Cacavate* is a tree in the Province of *America Nicaragna*, which so abhors the Sun, that it must be kept allwaies in the shade, and must be covered with the shadow of some higher Tree: In Woody places that are wet, if it come to the Sun, it perisheth. *Libavius de orig. rerum.* *Cassia* oft times is changed into *Cinnamon*. *Galen* saw some boughs that were exceeding good and alltogether like it, and some twigs of *Cinnamon* like to *Cassia*: hence grew his opinion that for one part of *Cinnamon*, two parts of choise *Cassia* might be substituted in physicall compositions. *Galen de Antid. l.* 1. The twigs of it were cut in peices, and sowed up in green Oxe-hides, least the wood should grow unprofitable, by Worms that will breed in it. *Plin. l.* 12. *c.* 29. Of solutive *Cassia* men say, that he that shall daily swallow three drams of the pulp of it before dinner, shall never be troubled with the stone nor colick, *Mathiol in Dioscor. l.* 1. The flowers of the milky Thistle, which they call *Carduus Mariæ*. *Platerus de vit.* saith, they cured a Souldier of the Strangury, onely by looking upon them. *Corallina* is of so great force against Worms, that it drives them forth the same day it is taken. There was a Boy that took it, and voided 70 Worms: The Antients knew it not, now they use it all over *Greece*, *Lemn. occult* l. 3. c. 9.

CHAP. XI.

Of Cinnamon and Cedar.

Cinnamon growes in *Zeilam*, and in one of the *Moluccæ* Islands, *Mutir*. It bears no fruit. In the heat, the rind cleavs and comes off, it is pull'd off twice a year, *Scalig. Exerc.* 144. First it growes sweet, and the next moneth it comes to perfection. In *Galen*'s dayes it was so scarce, that no man had any but the Emperour, *Galen l.* 1. *de Antid.* But even at this day there is scarce any such as *Galen* describes, *Scalig. loc. cit.* It holds not good for 30 years; for it is false, that others write, that it never growes old. *I* (saith *Galen*, *loc. cit.*) *observed some change in* Cinamon, *not that was* 200 *years old, but far younger, in comparison: For at the time that I made* Theriac *for the Emperour* Antoninus, *I saw many woodden vessels wherein such* Cinamon *was, some were laid up in the time of* Trajan; *others of* Adrian; *some in* Antoninus *his time; and all these in taste and smell did exceed or fall short one of another, so much as they differed in age.* Cedar doth bring spungy flesh to putrefaction without pain, because it is dry; and preserves dead bodies from corruption; for it drinks up the superfluous moysture in them, not medling with what is firm, *Mathiol l.* 1. *Dioscor. c.* 88. It kills Nits, Lice, Moaths and Worms bred in the ears; Leidon, it kills the Child that is living, and drives forth the dead, *Theophrast. l.* 5. *c.* 8. It corrupts the seed in copulation, and hinders procreation. It grew formerly abundantly in *Libanus*; now adayes it is very little there, (*Rhanwolfius* reckoned but 24 Trees). It is wonderful for height and thicknesse. The body is so great, that three Men cannot fathom it. It is far greater in Orchards, if it be let alone and not cut down. At *Utica* there was the Temple of *Apollo*, where the beams of the *Numidian Cedar*s lasted; for they were laid there at the first founding of that City, that was 1188 years, *Plin. l.* 16. *c.* 40.

CHAP.

CHAP. XII.

Of Chamæleon, Cloves, and Cichory.

THe root of black *Chamæleon* is venomous in *Greece* and *Pontus*: *Mathiolus* ascribes it to the goodnesse of the climate, where it is not so. For the Peach Tree was formerly deadly to the *Persians*, but safe to the *Egyptians*; and Cuckowpint was so mild amongst them of *Cyrene*, that they eat it for meat like Rape roots. In *Greece* and *Italy* they cannot eat it boyled nor raw. It kills both Dogs and Sows, Dogs, when it is kneaded with barley meal, oyl, and water; Sows, with Coleworts. If you would try whether a sick man shall live, some say he must be washed with that root for 3. dayes; if he can endure it, they think he will not die. The clammy substance growing at the roots of it, is present venom; but taken moderately, it makes sleepy persons wakeful, *Theophrast. l. 9. de Plant. c. 23.* Hence the women of *Crete*, that they may not sleep at their work, eat a little of it after Supper. The *Clove*-Tree growes in the *Indies* in some Islands of the *Indian* Sea, it is like a Bay-Tree, with narrower and most sweet smelling leaves. Cloves proceed from them, that are nothing but the beginning of the fruit. It growes of its own accord when the Cloves fall down, *Mathiol. in l. 2. Dioscorid. c. 253.* It growes to perfection in 8. years, and lasts a hundred years. It bears fruit onely in the *Molucco* Islands. The keepers of it beat the Tree with Canes, covering the Earth before with Palm-Tree coverings. For 3. years it yields fruit, then it growes barren, and degenerates, *Scalig. Exerc. 146. §. 1.* *Cichory*, called *Wart-Succory*, kills Warts. Many by once eating one Sallet of the leaves of it, have been freed. The seed doth the like, taken one dram for three dayes after Supper, *Mathiol. in l. 2. c. 125.*

CHAP. XIII.

Of Saffron and Cherries.

SAffron flowrs almost for a moneth; After the flowers, by and by come forth the leaves, that are green all the Winter, not caring for the cold; they grow dry, and fall off in the Spring; they never appear in Summer, *Mathiol. ad l. 1. Dioscorid. c. 25.* It flowers when the *Pleiades* set; and presently with the leaf it drives out the flower. The root loves Lime, it comes up by perishing; whence those Verses were made:

Saffron that's bruis'd growes fairer; be not sad,
To suffer, for at last 'twill make thee glad.

Minder. Aloed. c. 4. It is good for shortnesse of breath, *Cardanus de spirat.*

spirat. diffic. It recovered the Mother in law of *Cæsar de Comitibus*, who for 2. moneths was so short-winded, that she was next to deaths-door. Given to women in labour, it presently flyes to the Matrix, so that one woman was delivered with a child, dy'd in Saffron, *Heurn. l. 2. medic. c. 14.* It is hurtful to the brain, and with much using of it, it will cause one to laugh: we have an example of a Merchant who fell into such a laughter after meat, when he had eaten over-much of it, that he was ready to die. A Mule-driver at *Pisanta*, sleeping upon two little bags of Saffron, dyed that night, *Lusitan. Com. ad c. 25. l. 1. Dioscor.* *Cherry-Trees* cannot away with dung; if therefore you dung their roots, they degenerate; they prosper well if you cut off the branches of them, and bury them by the roots, that they may corrupt there. They grow without stones, if you cut the Tree off when it is young, about 2. foot from the ground, and pick out the pith of it with an iron, clearing the stock, and bind both parts together again, *Mathiol. ad l. 1. Dioscor. c. 129.*

CHAP. XIV.

Of the Dog-Tree, Cypresse-Tree, and Cucumbers.

THe Inhabitants of *Ida* by *Troy* say, that the male Dog-Tree is barren. In *Macedonia* they are both fruitfull; but the Male brings ripe berries in Summer, the Female in Autumn. These Berries are not so good as those; for they can hardly be eaten. Bees that taste of its flower, die by a dysentery. The *Cypresse*-Tree growes naturally onely in *Candie*; for in what place soever the earth is digged, unlesse it be planted as it should be, it will come forth again of it self. In Mount *Ida* it growes very well and numerous, in ground that is not forced, *Plin. l. 16. c. 33.* Set in watty grounds it presently decayes, and it is kill'd by laying dung to it. The seed is as small as Atoms. The Pismires desire it, which is the greater wonder, that so small Creatures can devour it all; the leaves are alwaies green, and the substance is never rotten, nor breeds Worms, *Rhodigin. l. 25. c. 2. Plin. l. 26. c. 40.* The Image of *Vejovis* made of this wood, remained in the fortresse from the year the City was built, 551. even to the dayes of *Rhodiginus*. In *Arcadia* at *Phophis* there were some so tall, that they overshadowed the Mountain that was next to them, *Dalechamp. ad loc. cit. Plin.* *Cucumbers* are sometimes wonderful great, that in *India* one man cannot carry one of them. *Scaliger* saw one was 7. foot and a half long. He saith also, *Exerc. 171.* *That he had a dry Gourd, which a man that carried it in sport, seemed to have a great Log on his back; It was 13 hands breadth. Eaten, they remain in the stomach till the next day; for they are of a clammy and cold substance,* Plin. l. 19. c. 5. They so hate oyl, that if a vessel of oyl be put under them when they hang on the stalk, they will turn from it, and grow crooked: They

grow very tender, if the seed be steeped in milk before they be set.

CHAP. XV.

Of Onions, Celandine, Hemp, and River Sponge.

THe *Onions* of the *Ascalonitæ* are of a peculiar nature; they onely are cleft from the root and barren; nor will they grow from that part, *Theophr. l.7. c.4.* Therefore they are not set, but sowed with their seed, and in the Spring they are transplanted with their branches. In *Candie* also, there is a kind of them that growes thick in the root, sowed in seed; but set, it spreads into stalks and seed; it is sweet in taste, but hath no head. Seed of *Elinus* being put into Onions, there will spring up an herb, with leaves like flax, of a sharp taste, they call it Dragons. Yet *Scaliger* was deceived when he sowed it, and thought to try this miracle, *Scalig. Exerc. 169. s. 2.* They say of *Celandine*, that Swallowes lay it on the Eyes of their young ones, and restore their lost sight, *Dioscor. l. 2. c. 186.* Hence, *Aristotle 4. de generat. Animal. c.6.* saith, prick the young Swallows eys, and they will see again: Worn next the soles of the feet, it cures the Jaundice: laid to womens breasts, is will stop the too great abundance of their Terms, *Mathiol. ad Dioscor. loc. cit.* Garden *Hemp-seed* will make Hens lay, and it extinguisheth mans nature eaten too largely, *Mathiol. ad l. 3. Dioscor. c.48.* The decoction of new Hemp if you presse it out strongly, and pour it on the ground, it will force the Worms out of their holes, and kills Worms in the ears, *Plin. l. 20. c. 23.* *River Sponge* is proper especially to the Rivers by the *Alps*. A pruner of Trees was cured by it, that fell from a Tree, and brake almost all his bones. They laid it round his body, and as oft as it grew dry, they sprinkled it with water. Though they did this but seldom, yet he was quickly restored, *Mathiol. ad l.4. Dioscor. c.94.*

CHAP. XVI.

Of Hemlock, Ciacompalon, and Cocco.

HEmlock is a kind of poyson, that makes men mad, and kills them. *Franciscus Trapollinus* dyed mad with it, when his Maid had put it into his Portage instead of Parsley. It hath made some Creatures lie for dead, and when they stood up again, they were astonished a long time, and afterwards they ran wildly up and down, *Scaliger* writes, he never saw any man that was killed by it. Starlings feed on it. From *Plato* we collect, that the force of it may be abated, if one be moderately hot before he take the juice of it; Therefore *Scaliger, Exerc. 152. s. 1.* saith, *That the Executioner that was to*

give

give this most deadly Poyson, warned Crito, that he should not suffer Socrates to dispute too much, because by that agitation of the mind, he would grow hot. *Ciocompalon* is a kind of Tree in *Camalonga*, which sends forth only 4, or 5, branches from a long stalk: the leaves are very great, for the inhabitants weare them for a Cloke, against the heat of the Sun and rayn. In the top of the Tree it puts forth flowers like Bean flowers, about 200, from whence grow fruit abundantly, as big as ones hand breath. It is a yearely Plant. It withers after it hath brought forth. *Coccus* is the same with *Tenga*. It is a Tree with a leaf like the Palme-tree: they cover their houses with them, for they make mats of them to serve for six months, (in *China* and *Malabar*) *Scalig. exerc. 25. s. 13.* It brings fruit in clusters, as the Palme Tree doth, each hath 200. nuts. When its comes forth, there is water bred in it; it is filled with it; when it is perfect. The end of this increase is the beginning of the Pith, for it grows by the thickning of it. The quantity is full three *Cyath.* It is very sweet. When the Tree is come to the full growth, in August, they cut some of the boughs of it in the middle, and leave the rest; they cut off the top also a little. They hang a cup to each of them, four great jugs are filled in one day. It brings fruit that continually follow one the others; it lives, 30, or 40, yeares.

CHAP. XVII.

Of Doronicum, Dragons, Olive-honey, Vipers, Buglose, Eryngion, Euphorbium.

DOronicum is Poyson, that kills doggs suddenly. *Mathiolus* gave some to his dogg, and the dogg fawned on him all the time he lived; in seven hours he died, as of a falling sicknesse. There is a kind of Tree in the *west Indies* neere *Carthagena*, the fruit whereof is perfectly like a Dragon, with a long neck, open mouth, nostrills lifted up, a long taile, standing on its feet, so that who sees it would think it to be a Dragon. *Monarel.* In *Palmyra* of *Syria* there runs forth oyle from a stock of a Tree, that tasts sweet; it is called *Eleo-meli*, *Mathiol. in l. 4. c. 73.* It purgeth choler and crudities, exhibited one sextarius of it, with one Hemina of water. They that take it grow stupid, but they receive no harm if they be often rowsed, that they may not sleep. *Dioscor. l. 1. c. 32.* *Echion* or Vipers Buglosse, was found by one *Alcibius*. Sleeping on the ground, a Viper bit him, *Mathiol in l. 4. c. 25.* When he rose up, he pressed out the joyce of the hearb with his teeth, and drank it down, the rest he laid to the wound, and it cured him. Nature hath made the hearb with hairs like Vipers, that Men might know the use of it. *Eryngion*, if a Goat take it in the mouth, the whole heard will stand still, and cannot move till you take it out. *Plutarch in lib. quod maxime cum principe disp. sit philos.* The smell of it passeth so quick, that it spreads like fire to what is next, and exercisetb its force upon it. *Euphorbium*, if we be-

lieve

lieve the *Africans*, is a prickly Plant, out of the root of it the fruit comes forth of a long forme like to Cucumbers, somtimes two foot long, when it is ripe it is pricked with an Iron, and a clammy white liquor comes forth of it, which they let run into a bottle, and they keep that. *Scalig. exer.* 181. *s.* 2. It purgeth the belly, but the patient will faint and swear with a cold swear. Given, the weight of two *Oboli*, it cures the dropsy; it kills one if he take three drams weight. For in 3 days it will corrode the Stomach and the Guts. *Mathiol. in l.* 3. *c.* 86.

CHAP. XVIII.

Of Elaterium, Hellebour, Eupatorium, Emitum and Fennel.

E*Laterium* lasts longest of all Physicks. One had of it that was 200 yeares old. The moysture is said to be the cause of it. For though it be cut moyst and layd in the ashes, yet for 50 yeares it will put out a Candle, if it be put to it. *Theophil, l.* 9. *c.* 14. With the infusion of *Hellebour* in the midst of Winter, when the cold is greatest, many have been cured of a Quartane Ague. *Matthiolus ad l.* 4. *c.* 146. Never saith he as I remember, did we give our infusion to those had quartane Agues, but at once or twice taking, by Gods assistance they were cured. By the smell of dryed *Eupatorium*, venemous Creatures are driven away. Hearts wounded are cured by eating this; *Matthiol. ad loc cit, c.* 37. *Emitum* is a Tree in *Trachimia*; if Serpents come neere, and but touch it, they dye. *Ælian, l.* 9. *c.* 27. Also *Strabo* saw one *l.* 15. that I will here mention, it was like a Bay Tree; beasts that tast of it, grow mad, some at the mouth, and fall into an Epilopse. In the Kingdome of *Tombut* which is the wilde of West *Æthiopia*, *Fennel* grows so big, that they make bowes of it. *Scalig. exerc.* 166. In *Spain*, whilst it is green, the Country people mowe down the stalks of it for firing. *Dalecamp. ad Plin. l.* 20. *c. ult.*

CHAP. XIX.

Of Fennel Giant and the Fig-Tree.

F*Ennel Giant* grows in hot Countries. Out of the first shoots of it Shepherds take out a little pith, like to the the yolk of an egg that is hard. That wrapt in a wet paper and rosted under the embers and then sprinkled with Salt and Pepper, tasts exceeding well and makes them busy. *Mathiol. ad l.* 3. *c.* 76. They are by nature of great antipathy to Lampreyes, for if they but touch them, they dye, *Plin. l.* 20. *c.* 33. Also they are present Poyson to other Beasts; yet very pleasant food for Asses. The Indian *Fig-Tree* is wonderfull great. *Scaliger*

Scaliger briefly describes it out of *Theophrastus*. The Fig-Tree, saith he, beares small fruit, it plants it self, and is spread forth with vast boughs, by the weight whereof they are so bended to the earth, that in a yeares space, they stick in and grow up with new branches, round about their parents like to Arbours: so that seven Shepheards may summer under it, being shaded and fenced about with the fence of the Tree. It is pleasant to behold, and from far it seems, an arched circumference. The upper boughs of it put forth very high, and in abundance like a wood from the huge bulk of the Tree, that many of them make a round of 60 paces, and they will cast a shade two furlongs. The broad leaves are like an *Amazonian* Target: wherefore covering the fruit, it will not let it grow; It is very rare, and no bigger than a beane. *Scalig. exerc.* 166. Moreover Carthage was destroyed by the Fig-Tree. For *Cato* bearing a deadly hate against Carthage, and being carefull to secure his posterity, when he had cried out at every meeting of the Senate, that Carthage must be destroyed, he brought one day into the Court, a early ripe figge, that was fetcht from Carthage, & shewing it to the Senatours, he asked them, whence they thought that Fig was taken from the Tree. And when they all granted, it was newly gathered, he replied, 3 dayes since was this pulled at Carthage; so neere to our walls is the enemy. They presently began the 3d. Punick Warre, wherein Carthage was rooted out. In *Hyrcania* there are some that each of them will beare 260 Bushells. *Plin. l.* 15. *c.* 18.

CHAP. XX.

Of the Ash, Mushrooms, and the Beech.

THe *Ash* is an Enemy to Serpents, none of them can endure the shade of it, though it be late at night, *Plin. l.* 16. *c.* 13. *Pliny* saith, he proved it, that if a Serpent be compassed in, with Ash-wood and fire, he will leap into the fire, before he will passe over the Ash wood. This is the great bounty of Nature, that it flowers before the Serpents come forth, nor do the leaves fall, till the Serpents be gone to hide themselves. Vessels made of the wood of it for use of meat and drink, help the Spleen and the Stone wonderfully, *Dom. Zean. l.* 11. *pract.* At the waters *Sinuessa* out of which fire breaks forth, it did once prosper. *Pliny hist. l.* 2. *c.* 107. *Mushrooms* grow so great in *Numidia*, that they are thicker than Quinces. In the Kingdome of *Naples* the crust of the ground is thick, and like Marble, that being covered with earth a span deep, and sprinkled with warm water, in 4. dayes sends forth Mushromes, *Scalig. Exerc.* 181. *s.* 1. It is of necessity that there be some seminary vertue, out of whose bosome they may proceed; for the water that is sprinkled on affords matter and nutriment, and also a procatarctical cause, *Lebav. l.* 1. *Epist. Chym.* 30.

30. If they be boyled, or the juice be pressed forth and poured at the roots of Trees, (especially Beech-Trees) *Mushrooms* will grow from thence in great abundance, *Sennert. de conf. et disp. Chym. c. 12.* In the Northern parts under the Pole, *Beech-Trees* are frequent of a magnetick vertue, and the *Mushrooms* that grow to them are changed into Loadstones, saith *Olaus l. 12. c. 1.*

CHAP. XXI.

Of Guaicum and Gentian.

Guaicum is of great vertue against the *French*-Pox; In *Italy* at first they were fearful to drink it. Bread and Raisins were prescribed with a moderate diet, and to live 40 dayes in a dark Chamber, and that so curiously, that they admit not of the least Ayr, *Mathiol. in l. 1. c. 3.* The errour was observed afterwards, and Hens flesh was allowed, but not a drop of Wine. *Mathiolus* was the first that tryed it with successe, and others followed him; *Gentian*, called also *Cruciata*, is the herb of *S. Ladislaus* a King. The report is, that the *Tartars* drove him out of *Hungary*, and that he fled to *Claudiopolis* a City of *Dacia*; There he grew acquainted with a rich man, and became his God-father. He helped him to drive out the *Tartars*. They as they fled, threw down moneys of Gold that they had plundered in the field of *Aradium*, as a means to hinder those that pursued them. The King pray'd unto God, that they might be changed into stones; and it was so. Hence it is, that there are so many stones there. After this *Hungary* being afflicted with a grievous Plague, He obtain'd of God, that what plant an Arrow shot into the Ayr should fall down upon, might be a remedy for that disease. It fell upon *Cruciata*, and by the use of that the Plague was driven out of that Country, *Camerar. Centur. 3. Memorab. f. 23.*

CHAP. XXII.

Of Broom, Ginger, and St. Johns-wort.

IN stony and sandy grounds, 3. foot from Broom, one moneth before and after the Calends of *June*, there is a kind of *Broomrape* found that is a cubit high; if this be bruised, and the juice pressed forth, which is like to clear wine, and be kept in a glasse bottle stopt all the year; it is an excellent remedy against the Plague. *Ginger* is a root that creeps along with knots and joynts, the leaves are like reed leaves that wax green anew twice or thrice a year, *Mathiol. l. 2. c. 154.* There is some difference in the taste when it is dug forth before its time to be ripe. The fit time to gather it is, when the root growes dry, otherwise it is subject to Worms and rottennesse. *St. Johns-*

Johns-wort both seed and flower is wonderful to heal all wounds; besides those in the head. Some write, that the Devils hate it so much, that the very smell of it drives them away. I think this superstitious. The same is reported of Pellitary, especially for green wounds. If it be bruised green and bound to a wound, and taken off the third day, there will need no other Medicament, *Mathiol. in l. 4. c. 81.*

CHAP. XXIII.

Of Elecampane, Turnsole, and Hiuca.

E*Lecampane* is a yearly Plant, that growes higher than a man; Sometimes 24 foot in height: it growes up in 6. moneths after the seed is sown; on the top of the stalk there growes a head like an Artichoke, but it is rounder and broader, and it extends it self with a flower as big as a great Dish; *Bauhin. ad lib. 4. Dioscor. c. 182.* Sometimes the diameter of the dish is more than a foot and half; and it is compassed about with long leaves of a golden colour, or as it were Sun-beams, and the plain of it in the middle is purple colour. The seed is disposed of in the holes of the dish; it hath a black rind and sweet substance within: so great is the abundance of it, that sometimes you shall find above a thousand in one dish: Some there are, that take the tender stalks of the leaves; and scraping away the Down, they boyl them on a grid-iron, and season them with Salt, Oyl, and Spices, and they are better tasted than Artichokes. It is a wonder, that it turns with the Sun East and West; for when the Sun riseth, as if it did adore the Sun, it bows down the head, and it riseth with it, alwaies pointing toward the Sun, and opening it self very much at the root of it, till the Sun sets. *Turnsole* kills Pismires, if you stop their holes with it. If a Scorpions hole be compassed about with the juice of it, he will never come forth; but if you put in the herb, he dies, *Mathiol. ad l. 4. c. 186.* *Hiuca* is as great as a mans thigh, it goes about with the Sun, though it be a clowdy day, and at night it is contracted as sad for the Suns absence, *Plin. l. 22. c. 21.* They break it into fine meal by rubbing it with *Pumex* stones or whet-stones; then they put it into an *Hippocras* bag, and pour water to it, and presse forth the juice: The Liquor is deadly, but the meal that is left, is set in the Sun; as they do Sugar-Candy; when the meal is dry they temper it with water, and make bread of it, *Scalig. Exerc. 253. l. 8.*

CHAP.

CHAP. XXIV.

Of Impia, Juniper, and Glasse-wort.

IMpia is thought to be a plant that no Creature will taste of, and from thence it hath its name: yet bruised between two stones, it will grow hot; and the juice of it mingled with Wine and milk, is excellent against the Quinsie, *Mathiol. in l. 3. c. 115.* They that shall taste of it will never be troubled with that disease. Some think that part of this herb is put into birds nests, and that keeps their young ones from being strangled when they eat so greedily. *Juniper* is hard; hence it is, that the wood will not corrupt in an hundred years. Therefore *Annibal* commanded to build the Temple of *Diana* at *Ephesus* with Juniper beams, *Plin. l. 15. c. 40.* A light cole of it covered with its own ashes, will keep fire a whole year, if we will credit the Chymists. An admirable Bath is made of it for the Gowt thus: *Take 12. pound of Juniper wood cut in pieces, boyl it in water in a great Cauldron, till but a third part remain; then pour forth the decoction with the wood into a Fat: let the sick go into it, and sit there up to the navel; and bathe his limbs, but he must first purge, Mathiol. l. 1. Dioscor. c. 87.* Many Gouty people have been made whole by this Bath, that were forced to keep their beds before. The pith of it in *Numidia* is white; in *Æthiopia*, black; in *Lybia*, purple coloured; *Scalig. Exerc. 181. s. 9.* Also the *African* Physitians raspit and use it successfully for *Guaicum*, against the *Indian* disease. I say by the by, that this disease was carried by the Jews out of *Spain* into *Africa*, and cannot there be cured without a remedy. But if the Patients go into *Numidia*, or *Æthiopia* by *Nigris*, there the Climate onely will cure them. Of the Ashes of *Kaly*, Salt is made; this is dissolved, with powder of stones, and a kind of clammy substance swims a top to make glasse: when it is cold, it growes hard, and is called commonly *Axungia Vitri*; being powdred, it makes the teeth wonderful clean, *Plater. l. 2. de Vit.*

CHAP. XXV.

Of the Bay-Tree, Mastick-Tree, and Flax.

THe *Bay-Tree* will yield fire of itself; and if you rub the dried boughes often together, strewing powder of brimstone thereon, it will take fire, *Mathiol. in l. 1. c. 90.* It is alwayes with green leaves; and so great is the force of it, that but stick some of the boughs in the fields, and the corn will never be hurt with smut, which is the plague of Corn; for it will take hold of the leaves. At *Rome* they held antiently, that *Jupiter* sent it from heaven, *Plin. l. 15. c. 30.* For an Eagle from aloft let fall a white hen, into the lap of *Livia Drusilla*, (who afterwards was called *Augusta*, being married to *Cæsar*, whom she

she was espoused to) she wondred at it, but was not afraid; the miracle was, that she had in her beak a Bay bough that was full of Bay berries. The Southsayers commanded to keep the Hen, and her Chickens, and to set the Bay bough, and take care of it, which was done in the Mannour of the *Cæsars*, that was by the River *Tibur*, about 9 miles from *Rome*, in the way *Flaminia*; and therefore is called, *ad Gallinas*, and it grew into a great wood. *Cæsar* afterward in triumph held a Bay-bough in his hand, and had a Crown of bayes on his head. Amongst all Trees this onely is never stricken with thunder, unlesse it be for a sign of future calamity; no houses are thunder-stricken, as they say, where the boughs are; Therefore *Tiberius* fearing thunder, when it did thunder, put on his Lawrel Crown. *Theophrastus* writes, *4. de Plant. c. 8.* that they are stony in the red Sea. The *Mastick-Tree* beats little bladders bowed in like to horns, wherein there is contain'd a clear liquor, which with age is turned into little Creatures, like to those that fly out of Elm and Turpentine bladders. In the Island *Chios*, of the *Egean* Sea, from the Mastick Tree cut, runs forth Mastick: it growes in ground that is rammed fast together, and paved, *Mathiol. l. 1. c. 45.* If you oft-times distill *Linseed* oyl, saith *Bapt. Porta. l. 10. mag. c. 9.* it will be so ready to take fire, that you can scarce shut it up in a Vessel, but it will draw fire to it, and if the vessel be open, it is so thin, that it will fly into the Ayr and evaporate, and if the light of a candle or fire touch it, the ayr will kindle, and the oyl will flame so violently at a great distance, that it is almost impossible to put it out. In the Desarts of *India* it growes red, that will endure the fire, and be purified by it. It growes out of stones, springing, and rising upward, the hair is short; and is therefore hard to be spun, *Libav. l. 2. c. 7. de Bombyc.*

CHAP. XXVI.

Of the Larch-Tree, Lilly, Loosstrife, and the Lote-Tree.

SOme of the best Writers say, That the Larch-Tree will not burn, and we alledged it before out of *Lemnius*; but that is found to be false. In the Mountains of *Trent* Iron is made, and the Furnaces are heat with *Larch-wood*; and no wood will better melt mettals. And if stones will burn that have a Bituminous matter in them, what shall we conclude of a Rosinous kind of wood? *Lillies* will hold green all the year, if when they are shut, and have not opened themselves, they be cropt, and put into new unglased pots, and kept close covered, *Mathiol. ex Anatolio in l. 3. Dioscor. c. 99.* When in the mean time you take them out for your use, bring them to the Sun, and by the warmth of it they will open themselves. *Loosstrife* is a notable remedy against the Plague; the Country people found this Plant amongst the *Cœnomani*; bound something high upon a man, it will drive the poyson

of

of the plague downwards, and keeping it there, will not let it rise up any more, *Ruel de natur. stirp. l.3. c.78.* If Oxen disagree, lay this on their yokes, and they will be quiet. The *Lote-Tree* is a vast spreading Tree full of large boughes. *Domitius* valued 6. of them at a thousand *Sestertia, Plin.l.17.c.1.* They lasted untill such time as *Nero* burnt the City, 180 years. There is also an herb in *Egypt* call'd by the Name, that when the waters of *Nilus* go back that water'd the ground, it comes up like a bean, *Plin. l. 13. c. 17.* The fruit of it is like a Poppy head dented in, and the seeds are in it. The Inhabitants putrefie the heads in heaps, then they wash them apart; when they are dry, they bruise them, and eat them for bread. When the Sun sets, these Poppy heads close and are covered in leafes; when the Sun riseth they open, till they grow ripe, and the white flower fall off; That bread is Physical, *Plin. l. 22. c. 21.* They that feed on it are never troubled with a Dysentery nor Tenasmus, nor any diseases of the belly. When it is hot, it is the most easie of digestion; but cold, it is harder for the stomach.

CHAP. XXVII.

Of Malabathrum, Punic and Assyrian Apples, and the Tree called Mangueis.

Malabathrum is a leaf of its own kind that the Lakes of *India* produce, swimming like Duckweed on the waters without any root: they gather it and stitch it through, and hang it up to dry, *Diosc. l.1.c.11.* They say, that when the Summer heat dryes up the waters, the dry sprigs do burn on the ground, and if this come not to passe, it growes there no more. *Dioscor.* divides Pomgranates into 3. heads, some are sweet, some sharp and sowr; others are between both. They say that sharp ones will grow sweet, if hogs or mans dung be laid to the roots of the Trees, and to water them oft with old urine, *Mathiol. l. 1. Dioscor. c.127.* They are kept from corrupting a whole year, if when they are almost ripe, the branches they hang by, be woond about the Tree; or after that they are gathered, they be smeered all over with Clay resolved in water, and laid some dayes in the Sun. Also they are dipt into scalding water, and are presently taken forth again, and laid 8. dayes in the Sun to dry. The *Assyrian Apple-Tree* bears fruit alwaies, some fall off, others coming in their places, ripening one after the other. *Pliny, l. 12. c. 3.* saith, *That people tryed to transport them for themselves, because they are so good for health, and to carry them in earthen vessels, giving place for their roots to take ayr by holes in the vessels, as all such things that must be carried far to be set and transplanted must be used, which you must remember that we may not say one thing twice. But they will not grow but amongst the Medes and Persians.* Dioldius writes, as *Libav. de orig.rerum.* reports, than an *Assyrian* Apple, when it was cut, was found great with a young one in it, that lay in it as in the

the Womb, and was fastned to its stalk. The question was how it grew so, and it seems there were may Apples on that twig placed close together; and the first growing but slowly, that which grew over it by abundance of matter coming to it, grew faster, and pressing with its weight on the lesser, took it into it, and so grew about it. *Mangueis* is a Tree in the Country *Temistitan*; out of whose stock peirced, there flows a watry juyce. If any Man drink too much of it, he grows drunk and stupid. The bark is good for thread, the wood for niedles, the leaves to cure diseases, and to cover houses. *Matol. in Colloqu.de Plant.*

CHAP. XXVIII.

Of Musk and Mosse.

Musk is bred in the Navel of a certaine Creature; two kinds of this Creature are described: one is like a Goat with one Horn; and a great body. This when it is prone to venery, with the vehemence of Lust, the Navel swells, and the impostume grows great by the thicker blood heaped together, *Ruell. ex Aetio.* Then it will neither eat nor drink, and roles it self often on the ground, by which rowling it presseth forth the blood that swells in the Navell; The matter pressed out, in a short time grows wonderfull sweet. *Scaliger* writes of the other, that is in the Kingdome of *Pegu*, like a roe busk, white, from whose lower Mandible, the teeth put forth equally on both sides. *Under the belly of it* (I set down the story out of Scaliger *Exerc. 21*) *the Navel swells. They catch the beast, and cut off that part with the skin: and all the drops of blood that run out, when it is cut, and fall down, they are either catcht, or gathered up for good Musk. when they have cut it, they set leeches on, so many and so long, till they kill it by drawing blood from it: that blood so drawn forth, being dried and made into powder, they mingle with the former in small quantities, that is very strong. One hundred part is sufficient. The sophistication is discovered; if you smel to it.* That which is unmixt, will draw blood from your nose if you put it neere. There is another kind of Musk called *Civet*, it is bred in a little Bladder in the testicles of a certaine Creature. *Mathiol ad l. 5. c. 20.* And growing like sweat in the testicles, is of quality moyst and hot: that put into the Navel hole wonderfully cures the strangling of the Matrix. There is one kind of Cranes-bill that smels like *Musk*; especially Evening and morning. The hairy *Mosse* of the Larch-Tree, if it be set on fire, burns so violently, that it exceeds Gun-Powder. *Mathiol loc. cit.* For they flame with a World of sparks in a darknight, and flye up toward the Starrs, leaving a sweet smell behind them. Gathered new, and steeped with Oyle of Roses, it wonderfully abates paines of the head that come from a hot cause; it stops blood, layd upon wounds.

CHAP.

CHAP. XXIX.

Of Mandragora, Mallows, and the Mulberry-Tree.

MAndragora is a sleepy medicament, as experience proves, *Lemnius in explic. herb. biblic. c. 2.* For when as he had negligently laid the fair and amiable fruit of it in his study, he was oppressed with drowsinesse; but when he removed it, he grew wakefull again. The same thing hapned to the *Africans* in their Warre against the *Carthagenians.* For *Hamilcar* corrupted the Wine in the Vessells, and let the *Africans* take it for spoil: when they had drank, they all fell asleep, and the *Carthagenians* became Conquerors. *Potyan, l. 5. Phythagoras* calls it Ἀνθρωπομόρφος, For the roots from the middle to the bottom comes forth with two forks, that it seems to have legs like Men. The fruit is like an Apple, not far from the root, upon the leaves lying on the ground. *Heidfeld. in sphing. Philosoph.* Wherefore if it be dug up at that time, that it beares fruit, it represents a Man without Armes. There are also some Counterfeits made of reeds, *Mandragora*, and Bryonie roots. *Matthiol l. 4. Dioscor. c. 7.* sheweth the way an impostor used to make one. *They carve* (saith he) *in these the Images of both men and women, sticking the graines of Barley and millet in the places, where they will have haire come forth; then making a hole in the ground, they cover it with thin sand, so long till those graines shoot forth, which will be in 20 dayes at least. Then they take them up againe, and cut the roots where the graines grow to them, with a very sharp Knife, and they fit them so, that they may represent the haire of the head, the beard, and other parts that are hairy. Mallows* are so venereous, that the seed of that which hath but one stalk strewed on the privities, is said by *Xenocrates* to increase lust infinitely in women. Also three roots bound together are thrust up with great successe for the *tenesmus* and the *Dysentery.* But it is a wonder, that water should in the open ayre grow thick by it, and white as Milk. *Plin. l. 10. c. 21.* The Mulberry Tree will not bud till the cold be over, yet it brings forth fruit with the first; when it begins to bud, it buds so violently, that in one night it buds all over with a noyse, so that the whole Tree will be covered with flowers. *Pliny, l. 16. c. 25.*

CHAP. XXX.

Of Napellus.

NApellus kills with every part, but chiefly the root. For held in the hand till it wax hot, it will destroy you. It is certain, that some shepherds that used the stalk for a spit to rost birds, dyed of it. *Mathiolus.* (*Com. in l. 4. Dioscor. c. 73.*) confirms this venomous quality of it by many examples. I shall adde one. One dram of *Napellus*

Napellus was given to a Thief that was 27 years old: He drank it down, and said it tasted like pepper. Most grievous symptoms followed: for he vomited often something green, as Leeks. He felt a thing like a ball about his Navell, it came upwards, and sent a cold vapour to his head: then he became stupified as if he had a palsie that laid hold on his left arm, and leg, that he could scarce stir the top of his hand, all motion being lost in the other parts. By and by, this force of the disease forsook his left side, which became sound; and seized on his right side, and wrought the like effects there. He said, That all the veins of his body were grown cold. He had giddinesse in his head, and his brain was so often disturb'd, that he said it seem'd to him like boyling water. He had Convulsions in his Eyes and Mouth, and a very sharp pain in his Mandibles; wherefore he often held those parts with his hands, fearing they would fall off. His eyes appeared outwardly swoln, his face wan, lips black, and his belly was seen to swell, like a Tympany: His Arteries beat strongly, and his mind was diversly troubled, as the symptoms increased. For sometimes he thought he should die, and presently he hoped to live; sometimes he spake rationally, and sometimes he doted; sometimes he wept, and sometimes he sang. He affirmed, that in all this time he was thrice blind, and thrice in an agony of death, but his tongue was firm, never troubled with any symptome. Thus far *Mathiolus.* But all these symptomes by giving him Bezars stone, vanished in seven hours.

CHAP. XXXI.

Of Nyctegretum, Granum Nubiæ, Nutmegs, and Olive Trees.

NYctegretum was admired by *Democritus*, amongst a few things; it is hot as fire, and hath thorny leafs, nor doth it rise from the ground. It must be dug up after the vernal Equinoctial, and dryed by the Moon-light for 30 dayes, and then it will shine in the night, *Plin. l. 21. c. 11.* It is also called *Chenomychon*, because Geese are afraid at the sight of it. In *Nubia*, which is *Æthiopia* by *Ægypt*, there is a *grain* that swallowed will kill living Creatures. A tenth part of it will kill them in a quarter of an hour, *Scalig. Exerc. 153. s. 11.* In *Banda* an Island of the *Molucco's* the *Nutmeg* growes, and it is covered with a cup for a shell, when 'tis ripe it is all covered over. Under the first covering the shell is not presently that covers the kernel, but a thick skin which the *Arabians* call *Macin.* The *Olive-Tree* if it be cropped at the first budding by a Goat, growes so barren, that it will never bear by any means; but if there be any other cause, the certain cure is, to lay open their roots to the Winter cold, *Plin. l. 7. c. 14.* The Olive and the Oak so disagree, that one planted by the

the other will shortly die. The Lees of oyl mingled with Lime, if walls be plaistered with it, and the roofs, they not onely drop down all adventitious humours that they contract, but neither Moth nor Spiders will endure them, *Mathiol. in Dioscor.* It flowereth in *July*, the flowers coming forth by clusters. From whence grow first green berries, and they are pale as they grow ripe; then they become a full purple colour, and lastly black. They are pulled in *November* and *December*, then are they laid in pavements till they become wrinkled, then are they put in under a millstone, and are pressed out with presses, pouring scalding water on, and so they yield their oyl. The wood of the Tree burns as well green as dry. *At* Megoris *a wild Olive Tree stood long in the Market-place, to which they had fastned the Arms of a valiant man; but the bark grew over it, and hid them for many years. That Tree was fatall to the Cities ruine, as the Oracle foretold, when a Tree should bear arms: for it so fell out when the Tree was cut down, spurs and helmets being found within it*, Plin. l. 16. c. 29. The Olive Tree lasts 200 years, *Plin. l. 16. c. 44.*

CHAP. XXXII.

Of the Palm-Tree.

THey say that the female *Palm-Trees* will bring forth nothing without the Males, which is confirmed when a wood growes up of its own accord; so about the Males, many females will grow enclining toward them, and wagging their boughes. But the male with branches standing up as it were hairy, doth marry them, by the blowing on them, and by standing near them on the same ground, *Plin. l. 13. c. 4.* When the Male is cut up, the females are in widowhood, and are barren. Hence in *Egypt* they so plant them, that the wind may carry the dust from the Male to the Female, but if they be far off, they bind them together with a cord *Pontanus* reports, that two Palm-Trees, one set at *Brundusium*, the other at *Hydruntum* were barren, till they were grown up to look one upon the other, and though it were so great a distance, yet they both did bear fruit. *Dalechamp. ad lib. cit.* Poets write thus of them:

A Tree there grew in large Brundusium *Land,*
A Tree in Idumæa *much desir'd,*
And in Hydruntum *Woods one rare did stand,*
Like Male and Female, 'tis to be admir'd:
On the same ground they did not grow, but wide
Asunder, and they both unfruitful stood.
They many leaves did bear, nothing beside;
At last they grew so high, above the wood,

That of each other they enjoy'd the light.
Then they grew fruitful, like to Man and Wife,
Each in the other seem'd to take delight,
And to be partners each of th'others life.

Cardanus reports, that in *Data* a City of *Numidia*, there was a *Palm-Tree*, the fruit whereof, unlesse the boughes of the flourishing male were mingled with the boughes of the female, the fruit was never ripe, but were lean with a great stone in them, and by no help could they be kept from consuming; but if any leaf or rind of the male were present, then they would grow ripe. *Philo. l. 1. de vita Mosis* faith, that the vital force of it is not in the roots, but in the top of the stock, as in the heart, and in the middle of the boughes, that it is guarded about with all, as with Halberdiers. There is a kind of Palm-Tree growes in *India*, out of the stock whereof, the boughes being for that purpose cut in the moneth of *August*, a liquor like wine runs forth, that the Inhabitants receive in vessels: unlesse it be boyled, it growes sowr after 3. daies, *Mathiol. ad l. 1. c. 126.* Boyled, it is converted into most sweet honey, which afterwards is resolved in water, in 20 daies it is strained forth artificially, and so clarified it will last. But the *Palm*-Trees which *Dioscorides* calls *Thebaicæ*, in time grow so dry in the Sun, that they are ground to make bread of them. *Thevet* speaks of a Palm-Tree that yields wine in the promontory of *Æthiopia*, which is the fairest sort of Palm-Trees for height, and for being alwaies green. They cut it 2. foot above the ground to draw forth the juice. They let it run into Earthen vessels for their daily drink; and to make it keep, they cast in a little salt. It is like white Wine of *Campania* in colour and substance. *Linschotius l. 4. Americæ novæ c. 26.* reports; That in a place of the *West-Indies*, called *St. John de portu divite*, there growes a *Palm*-Tree that every moneth brings new leaves, and is loaded with Cocker-nuts. *Pierius in Hieroglyph.* saith it is an Emblem of the year, because this Tree alone at every new Moon sends forth several branches.

CHAP. XXXIII.

Of the Plane-Tree, Apple-Trees, and the Tree called Pater-Noster.

OF old they gave so much honour to the *Plane-Tree* at *Rome*, that they infused the roots in Wine a long time to preserve them. In the Island of *Candie* there is one that never loseth its leafs, *Plin. l. 1. c. 1. But there is a noted one in* Lycia, *by the way side, that is hollow like a house, the hollow cave in it is 81 foot wide, it hath a woodsly top, and vast boughes, like great Trees; it overshadowes the fields with its far casting shadow;*

dow; and that nothing may be wanting to the likenesse of a Cave, there is a stony circumference within, that is full of mossy Pumex stones: the miracle is so great, that L. Matianus *that was thrice Consul, thought fit to divulge it to posterity, that he and* 18. *more feasted in it.* If Apples in winter be kept amongst Grapes, they so corrupt the Grapes, that they presently wither and corrupt. It is reported, that if a woman with Child eat Quinces, she shall be delivered of an industrious and witty child. *Citron* Apples keep garments from Moths and Worms; how good they are against poyson, you may know by examples out of *Athenæus*, A Citron Apple hath cured some that were stung by Vipers. They keep longer uncorrupted, if they be put into a heap of Barley or Millet. They cure Scabs, if they be cut in the middle, and powder of Brimstone be finely strewed upon them, and they be rosted in hot Embers, and so the Patient be rubb'd therewith. Apples of *Sodome* are fair to sight; but touched, they fall to ashes, *Solin. c.* 36. In *Hispaniola* there is a Tree called *Pater noster*, the fruit is as great as a Hasel nut: put this in boyling water, and dip a linnen or woollen Cloth in it, it will be died gallantly with diversity of spots, but it corrodes with its over-great force, *Ovetan. l.* 9. *c.* 1.

CHAP. XXXIV.

Of Pepper, Plantain, Pimpernel, wild Tansie, herb Paris, and Paper.

ROund black *Pepper* growes upon some weak branches like tendrels, that creep up to the tops of Trees by them, clinging about them. It growes like the fruit of the wild Vine in clusters, flourishing close together of a green colour till it become dry; which when it doth, (as it doth in *October*) it is gathered, and laid upon *Palm-Tree* coverlids in the open Sun to torrifie, and so it becomes black and shrivelled, *Mathiol. l.* 2. *Diosc. c.* 153. The root of the greater *Plantain* put in a little bag and bound with a thread near the Region of the heart, preserveth a man from the Plague. *Scholtius* relates it for a certain remedy out of *Monavius, Epist.* 268. *Pimpernel* was found out by Prince *Chaba*, for with this alone were cured 5000 wounded *Hungarians*, after the battel, *Clus. in Nomen. Pannon.* steeped in hot water it is approved for to cure a continual Feaver. It hath so great force against the disease called *Hydrophobia*, that whosoever shall use it betimes in the morning for some dayes, in Sallets, or otherwise, after he hath been bitten, shall find no harm, *Fernelius*. Wild Tansey applyed to the palms of the hands, and soles of the feet, abates the heat of any Feavert, *Mathiol. in l.* 5. *c.* 37. In the berries of *Herb Paris*, there is found seed, that hath great vertue against Witchcraft. Some grow sottish by Chronicle diseases; others by Witchcraft. If these drink the seed, one dram, for 20. days,

days they are cured. *Paper reed* growes in the Lakes of Ægypt, or where the waters of *Nilus* have run over, and stand still, and are not above two Cubits high: the crooked root is as thick as ones arme, it hath triangular sides, it is not above ten Cubits in length, it runs up spire wise, like a Javelin. *Plin. l.* 13. *c.* 12. The Ægyptians made matter to joyne their Ships together with the inside of this bulrush, cutting off the tops of the reed; also they made Sailes and shoes of it. *Herodot, l.* 2. Onely the Priests wore those shoos, as *Arist.* writes. They were wont to sell, and to eat the lower part, of about a Cubit in length, and they were exceeding sweet, when they were torrified in an Oven. This was the chief meat of the Ægyptians, hence was the original of Paper. *Dalechamp. ad l.* 13. *Plin. c.* 11.

CHAP. XXXV.

Of the Oake, Rhubarb, Rape-root, and Rosa-solis.

IN *Maritania*, Oaks beare a long Acorn that tasts sweeter and more delicate than Chestnuts. *Scaliger Exerc.* 181. *s.* 26.

The land of the shore of *Sinus Pucicus* is Rocky, and the Clods of Earth are bituminous: there grow upon them pale shrubs, scarce a foot high. They have a kind of Okes, and Box-Trees, but they have no root. *Scaliger* saw one that was without knots and straight, 75, foot long. There were 30 Crowns offered for it. *Scalig. Exerc.* 166. A little above the Cauchi, *Pliny, lib.* 16. *c.* 1. writes that there were mighty ones, by the banks of two Lakes, which being either undermined by the waters, or blown down with the wind, pull'd up great Islands with them that they grew upon with their roots, and so standing equally ballanced, they sailed, being furnished with huge boughs. They oft terrified the Roman Navy, when as they were driven by the Waves as it were of purpose, and seen by those that kept watch on the decks. There was one in the Country of *Thurium* that never cast its leaves, yet never budded till midsummer. *Rheubarb* grows only in *China*, and is brought by *Uselech* into *Turkie*, and so to *Venice*; The vertues of it are said to be notable, and they bring an example of an hydropick person, who having been in exceeding great danger, by the use of Rhubarb he was cured, and lived to be a very old man. *Adolph. Occo in Scholtii Epist.* The same man received a mortall wound by his Servant, after his disease, and the Chirurgians expected he would dye in four days, or seven at farthest; he recovered, by Rhubarb, next under God. One writes thus of it, *Camerar. Cent.* 8. *in* 51.

Rhubarb is hot and dry; the belly binds;
And opens Children, Women great with Child
May safely use it, tis good for all kinds.
Opens Obstructions, and gives purges mild;

Both

Both Flegme and Choler, 'tis for th stomach good,
And helps the Liver, serves to cense the blood.
Stops spitting blood, and ruptures, and we prise
This root for weak folk, and dysenteries.

From the small seed of Rhubarb in 35 months, so great a root grows that in some places it weighs 100 pound weight, *Mathiol. in l. 2. c. 104.* *Mathiolus* saw Turneps in the Country of *Anamum*, that one of them weighed 30 pounds. Those that are sowed in Summer, are free from Worms, mingling sutt with the seed when tis sowed; or else steep the seed a night in the juyce of the greater housleek. It hath been proved, *Columella.* By *Harlem, Anno* 1585. there was one dug up like a Mans hand with nails and fingers exactly. I saw the picture of it at *Leyden* with *Cl. Bundarcius.* *Ros solis, or Sun dew,* which shines under the Sun like a Starr with his beams, hath its name from its admirable nature for, though the Sun in summer shine long and hot upon it, yet the leaves of it are almost alwaies wet, and the down of them is alwaies full of drops. And which is admirable, that moysture that is contain'd in the cups of the leaves, so soon as you touch it with your fingers, while it yet growes on the ground, or else is pulled up presently, and held in the Sun beames, is drawn forth by and by into white threads like Silke, which harden immediately, and so continue ever after, *Camerar. cent.* 8. *memorab.* 98.

CHAP. XXXVI.

Of Crow-foot, Rue, Rose-mary, Rose-root and rose-Tree.

Crowfoot, If Men eat it, will cause Convulsions, and draw their mouths awry. They seem to laugh that dye with it, *Pausan.* Also *Salustius* speaks of it: In *Sardinia*, saith he, there grows an herb called *Sardea*, like wild Smallage: this contracts the Mouths and Jaws of Men with pain, and kills them, as it were, laughing. *Rue* resists Venome, therefore a Weasel will carry it, when he fights with a Serpent. It is of a mighty greatnesse at *Macheruntum*, *Joseph. l. 7. de bell. Judaic. c.* 25. It was as high as any Fig-Tree, and had remain'd from the time of *Herod.* It is a singular remedy for the *Epilepsy*, as a Country man found by accident. *Camerar. Cent.* 3. *Memorab.* 36. He Bruised it, and with the smell of the *Rue* he stopt the nose of this Epileptick person fallen, and presently he rose up.

Rosemary grows so plentifully in *France* that they burn it, so thick that they make Tables of it. It flowers both spring and fall, *Mathiol. l.* 3. *c.* 37. *Barclay, in his Icon animarum. c.* 4. writes thus of it in England: Rosemary *in many Countries is costly by the very paines is used about it to cherish it; here it is common, and somtimes serves to make hedges for Gardens.* *Rhodium* root is the most lively of all roots; for dug out of the earth, unlesse it be laid up in very dry places, if it be planted again after many Months, it will grow. It grows on the highest Rocks where it hath scarse so much earth as to stick by, *Mathiol. l.* 4. *c.* 41. The *Rosebush* at *Carthage* in *Spain* is alwaies full of Roses in Winter, and was alwaies honour'd by the Romans; for they were wont to strew the leaves on their dishes of meat, and to besmear their Citron Tables with the juyce of them, that they might by reason of their bitternesse be free from Worms. *Heliogabalus* commanded to throw Roses on his Banqueting guests from the top of the Room, as if it rayned Roses. *Dalechamp in l.* 21. *c.* 4. That is wonderfull that is related concerning revification. There was a famous Physitian at *Cracovia*, who could so curiously prepare the ashes of every part of a Plant, that he would exactly preserve all the Spirits of them. The ashes waxing a little hot by putting a Candle to the Glasse, represented a Rose wide open, which you might behold growing by degrees, to augment, and to be like a stalke, with leaves, flowers, and at last a double Rose appeared in its full proportion; when the Candle was taken away it fell againe to ashes. *Rosenberg Rhodolog, c. ult.* The same thing allmost was done with a *Nettle*, as *Quercetan testifieth in his History of the Plague.* *For when one would appoint a remedy against the stone, at the end of* Autumn *he pull'd a great many Nettles up by the roots, of these Nettles he made a lye the common way with hot water, and by strayning and filtring, he purified this lixivium; that he might at last produce salt artificially as he intended: but when he had set the lixivium all night to cool in an Earthen Vessel, the next day when he thought to Evaporate to extract the Salt; it hapned that night, that the ayre was so cold, that all the Lixivium was over frozen.* When therefore in the Morning he purposed to cast that Lixivium out at the Window, besides his expectation he saw that all the water of the Lixivium was frozen, and a thousand figures there of Nettles were in it, so perfect with roots leaves and stocks, and shewing so exactly, that no Painter could paint them better.

CHAP. XXXVII.

Of Scorzonera, Squills, Sage, and Scordium.

Scorzonera is no ancient Plant, *Mathiolus* first described it, *l.* 2. *c.* 137. It was found in *Catalonia* by an *African* servant: he that found it, shew'd that it was a present remedy against the bitings of Adders; he that will escape, must drink the juice. Of *Squills*, vinegar is made, of an admirable quality, saith *Mathiolus*, if one daily drink a little; his jawes and Mouth will never be ill, his stomach will be well, he will breathe well, see well, he will be troubled with no wind in his belly, and will be well coloured and long winded. He that useth this vinegar will digest his meat well, though he eat much. There will be no crudities in his body, not wind, not choler, no drogs, nor will the urine or endure passe away with over loosenesse;

Mathiol. in l. 2. c. 168. Of *Sage* they say, that it stops the flowing of the courses, if one smell to it; and eaten by one with Child, it will retain the child, and keep it lusty, *Mathiol. in l. 3. c. 34.* Hence it is that *Agrippa* calls it, sacred. If a woman drink a *Hemina* of the juice of it with a little salt the fourth day she hath abstain'd, and layn alone, and then lie with her husband, she will conceive. It is reported, that in *Coptus* of *Egypt*, after a great plague, that the women drank it, and did bear many children. In many places of *Asia* they bear Apples; In *Calabria* of *Consentia*, *Scaliger* saith, *Exerc*, 168, that one did bring forth a gall of an Ash-colour, and that he saw it. Dead bodies are preserved by touching *Scordium*, *Galen. l. 1. Antidot.* For the dead bodies of those that fell upon the *Scordium* of *Crete* after they were slain in the War, did corrupt least, especially on that part whence the *Scordium* had touched them. It if it be boyl'd in wine, it is good to drink against stinging of Serpents, *Const. de Febr. pest. c. 18.*

CHAP. XXXVIII.

Of Nightshade.

THere are many kinds of *Nightshade*: amongst these are Winter Cherries, the sleepy Nightshade, the greater and the spungy Nightshade; they seem to have some strange things in them. *Halicacabum* is such an enemy to Vipers, that if the root be near them they die with deep sleep. *Vesicarium* hath long leafs, white flowers, out of which come forth green round bladders, with six divisions long waies, the seed within is murry colour, as great as *Orobus*; in the side of it is the figure as it were of a mans heart, with a white colour. Nature framed it so, that we might know it was good for the diseases of it. Sleepy Nightshade, tasted causeth sleep: the *Danes* found that, by their example. For when by *Sueno* King of *Norway* besieged *Duncanus* King of *Scotland* in the Town of *Perth*; He calling forth *Maccabæus* his Cousin-german, began to treat of surrendring up the place, and provision, *Hector. Boet. l. 12. Scot. hist.* The *Danes* accepted the conditions, and took what provision they had; but so soon as they had tasted of it, they were all so oppressed with sleep, (for their wine and beer were infected with Nightshade) that *Macbabæus* vanquished them. Ten of them suspecting the gifts of Enemies were safe. These carried King *Sueno* like one that was dead, in a Fishers Boat to the mouth of *Thais*, and so home. The root of the greater Nightshade dryed, if half a drain of it be steeped in wine, seven dayes, it will so infect it, that if any one shall drink it strain'd, he can eat nothing; let him drink vinegar and it is presently gone, but if you take it too largely, it will strangle you. *Franciscus Calceptarius* of *Verona* was the first discovered this secret, and reveaded it to others, *Mathiol. in l. 4. c. cit.* Of the tuberous Nightshade, the root is

is spungy, sometimes as great as ones fist, as long as ones hand; where the stalk riseth, many fibrous roots come forth, that are spread on the ground; from these at the beginning of the Spring, come up other stalks, and other bulbous roots grow with them; and it will propagate so many roots, that for one plant dug up in the Winter time, *Bauhinus* (*ad loc. cit. Dioscor.*) observed, that there were above 40 bunches belonging to it.

CHAP. XXXIX.

Of Mustard, Satyrium, and the greater Saxifrage.

Mustard seed covered with Sugar, or eat with honey for junckates is a safe experiment; for stupidity proceeding from moisture, *Horst. l. 2. de sanit. tenend. c. 1.* Where the Uvula is fallen, this sawce will draw it up presently. *Pythagoras* esteem'd of it, because besides preserving ones health, it ascends high, into the closet of reason where the mind resides. *Pansa. Theor. spu. de pror. vit. c. 51.* saith thus; I commend the infusion of this in sweet wine to all Scholers, chiefly in winter time. For it heats all the body, opens the mesaraick veins, and promotes the *Chylus* toward the Liver: For there is nothing better than to have a loose belly, and that helps it self. *Satyrion* is very good for venery, only touched. *Theophrastus* saith, it was proved 70 times in an *Indian* that brought it, and 12 times in others that touched it. *Cynosorchis* is like to this, whose greater root is full of flatulent matter, and causeth lust, the lesser restrains it. Great *Saxifrage* growes in Mount *Baldus* coming forth of a firm hard stone, and old walls of Cities, *Mathiol. ad l. 4. c. 15.* The root sticks so fast in rocks, that it cannot be pulled out but by sharp Irons; It is good to drive out stones; by the drinking thereof abundance of stones were driven forth at once, and they were as great as Beans.

CHAP. XL.

Of the Turpentine, and Frankincense Trees.

Turpentine Trees, are one male, the other female, *Theophrast. l. 3. c. 25.* The Male is barren, the female brings forth a red fruit, as big as a Lentil, which cannot be digested; Another kind of female brings forth green fruit, and it growes red afterwards; And last of all, like the grape, as it growes ripe, it becomes black, and is as great as a Bean. *Egisippus l. 4. c. 3. de excid. Hierosol.* writes, that in *Memphis* there was a Turpentine-Tree, that was set at the making of the World, and it was there in his dayes. *Frankincense* is bred in *Arabia* in a private place almost in the middle of the Country, beyond the *Aranites* in the Land of the *Sabæans*. The *Minæi* were the first that

that found it out; and it is reported, that onely 360 Families have interest in it, and they keep it by succession. The people that are their Neighbours call them sacred. For when they cut the Tree, where the liquor runs forth, or when they gather it, they neither come at Funerals nor their Wives. They were wont to gather it, by cutting the bark of the Tree, at the rising of the Dog-star, because then it was most full of humours; that which dropt out of the Tree was received in a Palm-Tree covering, *Scaliger Exerc.* 49. It is there so cheap, that they carine ships with it instead of Pitch. But of *Frankincense* is made the best Medicament for blear and red eyes. It is said to cure in one night, *Mathiol. ad l.* 1. *c.* 73. *Dioscor.* A piece of Frankincense is put on a sharp point and burned, in a wax candle, then it is quenched in 4. ounces of Rose water; this is often done even to 30 times, then the water must be strain'd with a clean cloth, and the corners of the eyes must be anointed with a feather dipt in it, when the sick go to bed. If redness and tears increase with great pain, breast-milk will cure them, if you wash them therewith.

CHAP. XLI.

Of wheat and Thyme.

THere is nothing more fruitful than *wheat*; for of one bushell if the ground be good, as in the Country of *Bizacum* in *Africa*, there will come 150 bushells. *Plin. l.* 18. *c.*7. saith, That the Provider sent to *Augustus*, that grew from one grain ('tis hardly credible) 400 ears near upon: also he sent to *Nero* 340 strawes that sprang from one corn. The Fields of *Leontini* in *Sicily* yield 100 increase. In the Country of the *Senones* by the Sea side, one root hath born 24 ears, and one bushell hath sometimes afforded an hundred, *Mathiol. in l.*1. *Dioscor. c.* 78. In *Asia* beyond *Bactra*, in a certain place *Theophrastus* writes it growes so great, that every grain is as great as an Olive stone, *Theophrast. l.*8. *c.*4. But he addes, that in *Pissoris* it is so strong, that he that eats too much will burst. The *Indian* Wheat hath a stalk like a Cane, that hath a white pith in it, like to Sugar-Canes, in the top whereof it puts forth branches divided and empty. The fruit wherein the Corn is shut up in thin covers, come forth of the sides of the stalk. The Ear is as great as the apple of the Pitch-Tree, there are round about it, clear white grains within as great as Pease, disposed of in 8. or 10. right lines on all sides. From the Top of the Cod, hang long shoots of the same colour with the corn, the *Indians* call it *Malitz*. It is steeped 2 dayes in water before they sow it; nor do they trust it, untill it be wet with rain. They reap it in 4 months: but that which growes in *Eubœa* is ripe in 40 dayes, *Theophrast. lib. cit.* *Thyme* begins about the Summer Solstice; and honey from thence is successfull for Bees and Bee-masters, *Theophrast. l.* 6. *c.* 2. If it put forth, its flowers; otherwise, tho making of honey doth not succeed the

well, the flower perisheth if a shower fall. There runs oyl from it of a golden colour, when the herb is distilled through a bath of hot water, when it is green. It tastes like a pome Citron, *Mathiol. in l.*3. *Dioscor. c.*37.

CHAP. XLII.

Of Tobacco.

TObacco, or *Nicotiana* from the finder of it, is called also the holy Herb, the *Queens* herb, the herb of the *holy Crosse*, and *Petum*. It is well known to them that know the *Indian* Merchandise, and those that have smelt the fume of it in *Britany*, *France*, and the *Low-Countries*. It is sowed when the Moon increaseth, and cut down when she decreaseth. There is one kind call'd the Male, with a broad leaf; and another called the female, with a narrower leaf, but a longer stalk. The least seed of it falling of its own accord, lies safe in the coldest winter; and the next Summer, being carried into many grounds with the wind, cometh up of it self, *Camerar. in hort. Neander in Tobaccolog.* From the seed of the male, they say the female will spring, if it fall into a ground where *Tobacco* grew before; and that so fruitfully, that it will yearly grow up of it self. But it will not endure the cold; but if it be well preserved, it will like Citron Trees continue all the year, and remain 4 years without damage, *Monardus de simpl. medicam.* As for the forces of it, it will cause thirst, hath an acrimonious taste, it troubles the mind, and makes head-ach, *Neander*. They that drink it too greedily, have fallen down dead, and stupified for a whole day, *Benzon. l.*1. *c.*26. *hist. novi orb.* Hence it was that King *James* of famous memory King of *England* writ *Misocapnos*. For he supposed it weakned the bodies of his Subjects. Yet many famous men have written high commendations of it. The *Spaniards* say, it resists poyson. For when the *Cannibals* had wounded them with poyson'd darts, they cured themselves with the juice of Tobacco, laying on the bruised leafs, *Monard. loc. cit.* The Catholick King made tryal of it on a Dog, wounded with a venom'd weapon, and it cured him. *Heurnius* writes, that it cures perfectly the pain of the teeth, and takes away all the dolour. His words are; *When I was vehemently pain'd with Tooth-ache about a year since, I boyled Tobacco in water with some Camomil flowers, and I held a spoonfull of the warm decoction in my mouth. I spit it forth, and used this for two houres, the pain abated: The next day* (saith he) *I went to my Garden in the Suburbs as I was wont to do, and bending down with my head to pull up some grasse, there ran a moysture out of my nostrills; yellow as Saffron; it smelt like Tobacco, and all the pain of my teeth was gone. Never did blood, nor any thing but a flegmatick matter run forth of my nose in all my life, and I never saw any deeper yellow, than what ran now out of my nostrills.* That it restores the sight, see *Wiburgius ad Schnitz. Epist.* 209. A certain Maid

Maid had the pupil of her eye covered; he with the juice of the best Tobacco boyl'd to an unguent with *May* butter; and anointing the Eye outwardly with it, the eye being shut, effected so much, that none could discern it but those that stood close by. *Clusius* saith, That the *Indians* use to make pills with the juice of it and Cockle-shells bruised, that will stop their hunger for 3. dayes. It is no wonder; for by resolving of slime that falls upon the stomachs mouth, it abates the appetite. *Castor Durantes* in an Epigram describes the vertues of it, thus:

An herb call'd Holy Crosse *doth help the sight,*
It cures both Wounds and Scabs, and hath great might
'Gainst Scrophulous and Cancerous Tumours,
Burnings, and Wild-fires, repressing humours;
It heats, it binds, resolves, and also dries,
Asswages pains, diseases mundifies.
Pains of the Belly, Head or Teeth with ease
It helps, old Coughs, and many a sad disease
Of Spleen and Reins, and Stomach, and more parts,
As Womb, sore Gums, and Wounds with venom'd darts
Are cur'd thereby, with sleep it doth refresh,
And covers naked bones with perfect flesh:
For Breast and Lungs, when that we stand in need,
All other herbs Tobacco *doth exceed.*

CHAP. XLIII.

Of Trifoly, Teucrium, Thelyphonon, Yew, Thapsia, and Thauzargent.

Trifoly foreshews a tempest at hand, for when it is coming it will rise up against it. It hath been observed that when this hearb hath plenty of flowers, it portends many showers and frequent inundations that year; and a few flowers, shew drinesse. *Fuchs. in herb.* It is called Cuccow bread, either because she feeds of it, or because it comes forth about the time the Cuccow sings; seven times in a day it hath a sweet smell, and seven times in the day it loseth it But pulled up it always holds it, and when a showr is coming, it will smell so sweet that it will fill all the houses. *Teucrion* otherwise *Hermion* neither beares flowers nor seed. It cures the Spleen, and they say it was so found out *Plin. l.* 25. *c.* 5. when the entralls were thrown upon it, they report, it stuck to the Spleen, and drew it empty, It is said that swine that feed on the root of it, dye without a Spleen. *Thelyphonum* hath a root like to a Scorpion, and put to them it kills them; but if you strew white Hellebour upon them, they will revive again; it is scarce credible. *Theophrast, l.* 9. *c.* 19. The *Yew* brings forth berries that are red, and like red Wine; they that eat them fall into Feavers and Dysenteries. Cattel will dye if they eat the leaves of

of it, and do drivel. *Theophrastus* writes it *l.* 3. *c.* 10. but *Pliny* confutes it, *l.* 16. *c.* 10. It is so Venemous in *Arcadia*, that it kills such as sleep under its shadow, *Ovetan. Sum, c.* 78. In *India* it makes the eyes and mouth of such as sleep under it to swell. *Thapsia* grows in the *Athenian* land: Cattle bred there will not touch it; but strange Cattle will feed on it, and there follows either a scowring or death. *Theophrastus, l.* 9. *c.* 22. It grew famous by *Nero*: *For he, when he had his face bruised by his revellings in the night, he annointed it with Thapsia, wax, and Frankinsence; and beyond expectation it was whole the next day.* For it wonderfully takes away bruised marks. *Plin. l.* 13. *c.* 22. *Thauzangent* is a root in the Western Mauritania of so good smel, that a small quantity hanged about the roof of the house will make a gallant perfume. *Scalig. Exerc.* 142. *s.* 6.

CHAP. XLIV.

Of the Vine.

Vines are somtimes infinite great. *For in* Campania, *those that grow neere the tall Poplar Trees, run up by the boughs of them, with their joynts, till they come to the top, so that he that is bound to gather their grapes, is in danger of his life. Plin. l.* 4. *c.* 1. *Pliny* saith, they will not easily corrupt. For the Image of *Jupiter* in the City *Populonia*, remain'd there many yeares uncorrupted, and the Temple of *Diana* of *Ephesus*, had staires to go up to the top, made of one Vine of *Cyprus*. Some of them do yeeld fruit thrice a yeare. *Dalechampius* saw it in many places; at *Lyons* especially, in the Garden of *Guilet Caulius*. They are called mad Vines. *Dalechamp, ad c.* 27. *s.* 16. *Plin.* At the end of the Spring they send forth smal flowers like Starrs, set about with round scrapings like Silver, of a subspiceous colour; These being fallen off like to a little Starre, presently appear the clusters of Grapes, *Lemnius in herb. bibl. c.* 2. The smell of them drives away Venemous Beasts; the water that runs from the Vine, when it is pruned, heals Scabs. Some catch it in a glasse bottle, and set it in the Sun a whole yeare, in the open ayre free from rayn. At last a honey substance congeles, which is of as great vertue, as balsome. For it cleanseth, fills with flesh, conglutinates, takes away spots. Water distilled from the tender leaves of the Vine in *May*, is good for women that long; They suffer no harm, though they want it. *Sennert. l.* 4. *p.* 2. *c.* 2. From Grapes, Wine is pressed that we drink. The vertues of it are divers as the Wines are; *Lemn. de occult. l.* 1. *c.* 16. The Wines of *Poictou* make men peevish and froward, (for the Vapours of it prick the brain) but your Rhenish Wines are more gentle. In the Country of *Gorillum* the Wine is highly commended, and next to that, is the Wine of *Pucinum* and *Vipacum*. *Mathiolus*, when he had a long time paines of the Stomach, by experience found the force of it.

Livia Augusta, owed her 82 yeares of her life to the Wine at *Pucinum*. *Plin. l.* 14. *c.* 6. The Country people that inhabite *Japidia*, because they drink Wines neere *Pucinum* are seldom sick. *Galen de Theriaca*, saith, that the best never grows sowr; and *Pliny* writes that some have lasted 200 yeares; when it is corrupted it becomes Vinegar, the natural heat being resolved. It is of an excellent vertue. For it hinders tempests, and the ruine of Sailers, and dissipates the fouly ayre, suffering no humours to corrupt, *Plin. l.* 2. *c.* 48. Pearls are turn'd into Powder by it, as we have an example from *Cleopatra*, who objected to *Antony* that she alone would spend at one supper a hundred thousand *Sestertii*: and she took a Pearle out of her eare, the like was not found in the *East Indies*, and put it into a sawcer of Vinegar, and when it was dissolved she drank it up; *Plin. l.* 9. *c.* 35. *Aqua vitæ* is also made of it, which is otherwise called *Elixir*, the Golden water, the Heaven of the Philosophers, the quintessence, the Soul of Wine, the Divine water, and the Philosophers Key. *Canonher. de admirand. vini. l.* 1. *c.* 5. Physitians write wonders of it, which are impossible for ignorant people. It is thin, and the best part of it will flye into the ayre, that you would wonder at it. For the heat of it, kept inwardly by help of the motion of the Ayre, resolves the thin substance into a Vapour. *Cardan. de Æthere.* Things steeped in it, in 24 hours lose their vertues, *Heurn. l.* 1. *prax. Medic.* It is an Antidote for all things, *Mathiol. in Dioscor. l.* 6. and not only drank but spurted out of ones mouth into anothers face, it recalls Epileptick and hysterical persons, restoring lost speech, *Antonius della Scarparia*, when he was 80 yeares old, said, *O Aquavitæ! for 22 years I owe my life to thee. Savanarola of the art of making Aquavitæ simple and compound.* *Francis* the first, Duke of *Mantua* was much delighted with it: for having a cold Stomach he was troubled with wind. His words are these, *That he had tried all remedies, and found none so good as Aquavitæ, Canonher loc. cit.* Quercetan *shews an unusuall way of trying wine, in* Diætetica *in these words: All the Gascony wines that must be transported by Sea, are brought to* Burdeaux, *there they are laid in wine-Cellers for publick use, that are wonderfull long and broad, so that they may be truly called the Wine-Market, without the City a little way: and there they are set in close order, only a place is left between the ranks to draw wine at. The Merchants that come to buy wines and are cunning, care not so much to taste the wines that are good, but they will go over all the Wine-Vessels, and so they can tell by treading on them which are the most spiritful Wines, and lightest, and those they seal: For they go lighter and nimbler on the best wines, than on the grosser and more earthly wines; for they make their passage more heavy.* There be wonders of it in *Pliny l.* 14. *c.* 18. In *Arcadia* it makes women barren, and men mad. *Theophrast. l.* 6. *c.* 19. In *Achaia* it causeth abortion; if Bitches, eat Grapes they cast their whelps, *Victor l.* 7. *c.* 23. They that drink *Trœzenium*, lose their generative faculty. In *Thasias* one kind causeth sleep, another makes men wake. In *Ægypt*, the Grape is sweet and purgeth the belly; in *Lycia* it binds it.

CHAP.

CHAP. XLV.

Of Xaqua and Zuccarum, or Sugar.

Xaqui is a Tree in *Hispaniola*; The fruit is like to Poppie, and a clear white water runs forth of it, and whatsoever is sprinkled with it, grows like black, so that no washing will make it clean. In 20 dayes it parts from the rind, of it self. *Quetan Summ. c.* 77. There are two kinds of *Zuccarum*, one from Canes, another from an hearb; There is another kind from an Indian Tree, called *Hæoscer*, *Scalig. Exerc.* 164. But this is scarce *Sugar*, but the thinner part of milk compacted by heat, which falling forth of the buds and roots of the leaves, thickneth into a gum. They say the fruit is like to Camels Testicles; Out of any part of the Tree cut, Milk runs forth so hot, that it is held for the best meanes to take off haire. The Inhabitants make their skins smooth with this. There are two kinds of the true: one is got out of Canes two ways, for either it is pressed out and boyl'd to the whiteness of Sugar; or it comes forth of it self from the reeds, like teares. From the *Indies* formerly they sent it, so gathered with their other Merchandise. That which is called Sugar-Candy was carried about, in reeds. Histories testify, it was made naturally. For at *Dathecala* in the *Indies*, it is sold for Merchandise. In St. *Thomas Island*, the reeds yeeld it every Month. In the fifth Month they are ripe, and are cut down, and are grund and pressed for the juyce: what remaines is given to Fowle and Hogs, and it will fat them wonderfully, and it will make them so tender and delicate, that no hens flesh can be better, for those that are sick, to feed on. Another kind of Sugar, sweats-out wonderfull strangely. The *Arabians* and *Ægyptians* call it *Tigala*. They say a little Worm doth eate the hearb; whence Sugar swells forth, and grows together in little peices. It quencheth thirst, is good for the Chest, and takes away a Cough.

CHAP. XLVI.

Of other Miracles of some Trees.

Nature is rich; and her riches are so various, that they not only delight our understanding but exercise our industry. Truly besides what we have said, there are many wonderfull things. In the Island *Tylos*, there are Trees that beare Wool, and their fruit is guords, as big as Quinces: these breaking when they are ripe, shew balls of Down or Cotton, of which they make pretious linnen garments; *Plin. l.* 12. *c.* 10 In great *Java* they say there is a rare Tree, whose pith is Iron: it is very small, yet runs from the top to the bottom of the Plant. The fruit that grows on it, is not to

be pierced with Iron. *Scaliger* calls it, *Exerc.* 181, *f.* 27. πυξοειδὴς ξύλον. In the Island *Cimbubon* there is another whose leaves, fallen down upon the earth, do move and creep. It hath leaves like the Mulberry-Tree. They have on both sides like two little feet; pressed, they yeeld no liquor. If you touch them, they flye from you. One of them kept 8, dayes in a dish lived, and moved so oft as one touched it; *Scalig. Exerc.* 112, in *Malavar* there is a plant that contracts it self, if any one puts his hand to it; and if you pull back your hand, it recovers it self again. *Garzias ab horto.* That which he described from *Costa*, under the name of *Mimosa hortensis*, put your hand to it, it withers; take it away, it grows green again. The same Authour says that there is a certain Tree that is full of faire sweet flowers all night, but so soon as the Sun riseth, it withers: yet whatsoever this is, it may be ascribed to the tenuity of the Spirits of it. But *Linschot* saith, there is one that is contrary to this. In *Virginia* there is an hearb that the leaves are good Silk, and they take it off like a thin shining Membrane. It is two foot and a half high, the leaves are two foot long, and half a foot broad. In England, there vvas made a triall of this in weaving. For of this plant the whole Web made, vvas silk and approved for good. *Arioth. in Verginia*, In *America* there is the flower of *Granadilla*, in which may be seen the instruments of Christs passion, the Nails, the Rod, the Pillar, the Crown, the Wounds. *Mejer de Annat. Scoticis.* That *Libav. l.* 4. *de orig. rer.* ascribes to Imagination, *And*, saith he, *a friend of mine hath a Cherry-stone, upon which may be seen* 120 *faces.* In the Northern Island there are Rocks of Loadstone. If Beeches grow upon them, they are turn'd into Loadstone, *Olaus, l.* 2. *c.* 1. There is also in *Musteanum* an Indian Tree extreme high, the boughs of it are above 12 Cubits long, and it not only grows downwards of it self, but it fastneth in the ground of its own accord, and roots anew, and from thence arise new Trees; the boughs do thus bow down also, and cause more Trees, and thus they will grow in ranks, that they will make an Arbour for 400 men to walk under. Not far from *Malacca* there is another, that hath many roots, and as they divide severally into parts, so are they of different vertues. For those parts that look toward the East are an Antidote against poyson, but the parts toward the West are poyson. *Senar, res, p.* 4. *c.* 17. A certain fiery root cut in pieces, if it be set right over against a burning Candle, at first it makes it blink, and at last it puts it out, and that hath been often proved. *Biker in. proph. f.* 2. There was a firr Tree very admirable, seen in a Ship, which brought it from *Ægypt* by the command of *Caius* the Emperour. There was a foursquare obelisk set up in the *Vatican*, and he brought four blocks of the same stone to support it. The thicknesse of that Tree was as much as four men could fathom. *Plin. l.* 16. *c.* 40. The root of the hearb *Aproxis* takes fire a great way off, *Plin. l.* 24. *c.* 17.

From Trees in *India*, as high as Cedars or Cypresse Trees; and with leaves broader then Palm-Tree leaves, (they are called *Carpien*) an oyle distills that is taken with wooll pressed against the Trees, and you

you may smell it five furlongs off. In the same Authour we read of the Tree *Parebo* that grows only in Kings Gardens; it is as great as an Olive Tree, without flower or fruit; but under the earth the roots are as thick as a mans arm. Nine inches of it will draw Gold, Silver, Brasse, Stones, or any thing but Amber; but an ell of it will draw Sheep and Lambs. The weight of an *Obolus* cast into water, will make it congeal; and wine also, that you may work it in your hands like wax, yet the day after it will resolve again, *Libav. l.* 2. *debitum c.* 6. this seems to be a stinking ly, if it be not well interpreted; but surely a Philosopher cannot want that interpretation: you shall find it *loc. cit.*

CHAP. XLVII.

Of wonders of Trees.

SOme are found that bear no leafs; And *Pliny l.* 17. *c.* 25. tells us of a Vine and Pomegranate Tree, that did bear fruit, on the body or stem, not on the branches or boughes; and of a Vine that had fruit without leafs; and of Olive Trees, that the berries remain'd when the leafs were fallen. We said, that an Olive Tree burn'd down quite, will grow again; and in *Bœotia* Fig-trees eaten with Worms will bud again. At *Pausania* in *Arcadia*, the Oke and Olive Tree will grow both upon one root, *Dalechamp. ad loc. cit.* The same at *Corinth*, called *Hercules* Club, from a wild Olive Tree, took root and grew again: When *Xerxes* came to *Laodicea*, a Plane-Tree became an Olive Tree. A Tree sank into the ground at *Cumanum*, a strange thing, a little before the Civill Wars of *Pompey*; onely a few boughs were to be seen. At *Cyzicum* before *Mithridate*'s siege, a Fig-Tree grew out of a Bay-Tree, when he with 100000 men, and many horses fought against that City, *Strabo l.* 12. A green Palm-Tree was seen to grow up amongst the *Tralles* in the Temple of Victory under *Cæsar*'s Statue, where the stones joyned, and it was of a great bignesse, *Valer. l.* 1. *c.* 6. Also at *Rome*, in the Capitol, in the head, (some explain that to be the top of the house) twice in the War with *Perseus* did a Palm-Tree spring forth, presaging Victory and Triumph. When this was thrown down with Tempests, in the same place a Fig-Tree grew up. When *M. Messalus*, and *C. Cassius* were Censors, *A. P. Sulpicius* being Pro-Consul, Letters were brought from *Macedonia* with news, That a Bay-Tree grew up in the stern of a Galley. Lastly, the year before this, in *Silesia* a little Tree in the battlements of the walls of the Church was changed into a Palm-Tree: Religion was changed after that. Not without being revenged; for the change of the Species gives us hope of it.

The End of the Fifth Classis.

OF
Miracles of Nature.

The Sixth Classis.

In which are contained the Wonders of Birds.

Seneca Natur. quæst. l. 2. c. 32.

ALso those things are not out of our power, which are immoveable, or for their swiftnesse, equall to all the world, are like to things without motion.

CHAP. I.
Of the Eagle.

THe *Eagle* challengeth the first place; not that it is the best dish at the Table, for none will eat it; but because it is the King of Birds. It is of the kind of birds of prey. The right foot of it is greater than the left; the brain is so hot, that mingled with Hemlock juice, and drank in powder, it will make one mad. It drinks not, because it seems the blood of what it preys upon, sufficeth it. But in old age, when the Beak is crooked with drynesse, it preserves it self by drinking, *Ælian.* They have been seen a cubit in largenesse, and some young one, whose wings stretched out would reach 7. els. The Claws were bigger than a great mans fingers, and the thighes greater than a Lyons. *Gesner* saith, that was seen at a place between *Dreson* and *Mysnia*: when it lyeth down it takes a stone called *Ætites*, which because they grow so hot as if they boyled, doth temper their heat. When the young ones are hatcht, she holds them in her Talons against the Sun; and having proved them to be legitimate, she takes them on her wings and carries them; the strongest

strongest of them, when she hath them aloft, she lets them fall, and then she flies and meets them, and takes them up again. When they are old enough, she drives them forth of her nest and quarter. The female is so salacious, that being trod 30 times in a day, if the male come to her again, she will run to him. It is so quick-sighted, that flying over the Sea, out of mans view, it will discern the smallest fish: And as for its smell, it will flie to carcases 500 miles distant. It roars like a Bull; but the young ones are mute, because their tongue is hindred by moisture. It is an enemy to the Cranes: therefore when they fly over Mount *Taurus* from *Cilicia*, they take stones in their mouthes, and stop their clarying, and flye over it in the night. When the sight, bill, and wings fail her, she flyes above the Clowds, and there by the Suns heat she recovers her sight. She when she is become extream hot, plunges into the water, then she flies to her nest, grows feavorish, casts her feathers, is fed by her young ones, and renews her self; but sooner, if she can find Serpents to feed on.

CHAP. II.

Of the Hawke.

THe *Hawke* is of divers magnitudes according to its Sex and Country. The females are the greater, because their heat is lesse, *Calent. in Epist.* It hath a great heart that enclines toward the breast with a blunt point; the Milt is so small, that it can hardly be seen, *Aristot. de part. animal. c.* 38. It is full of feathers, which when it is young it casts 4. times. It is not very generative, for the over great heat thickneth the seed; also the moysture of it is sent to the feathers, the Tallens, and legs: yet it is so venereous, that the female will return 30 times a day, if she be required, *Alb. l.* 10. *c.* 8. She flies from Carrion, and if it come to a mans carcase, it will not feed thereon. She drinks, when she can light on no prey for blood. She flyes sometimes so high, that she cannot be seen. In the Ayr she will turn on her back, and stretches out her tail, back, and wings, and lyes upon them, *Ælian.* It hath wonderful ingenuity; The bird she takes in the Evening she holds under her feet, and when the Sun riseth she lets it flie away, and if she meets it again, she will never pursue it. When her eyes grow dim, she seeks for Hawkwort, and rubs it, and with the juice of it she anoints her eyes, *Ælian l.* 2. *de anim. c.* 43. She seems to lament the death of Man, and will cast the earth on his eyes, and if he be not buried, she will throw Earth to bury him. The thigh bone of it put toward gold, doth draw it to it with delight, *Ælian. l.* 4. *c.* 43. Pigeons so soon as they hear its noise fly away; hens eggs, if they sit, will be spoyled; small birds are so frighted at the sight of her, that you may take them off the hedges with your hands. The chief disease she hath is the molting of

of her feathers. It happens, before *Nilus* overflowes the fields, that is, in *August*. When the South wind blowes they stretch forth their wings, and grow hot with the heat of the wind; when this is wanting, they fan themselves with their wings in the warm Sun. By this warmth the pores are opened, the old feathers fally, and new grow up. The Ægyptians thought they lived 700 years.

CHAP. III.

Of the Asalon *and* Heron.

A*Sfalon*, is called *Smerillus* and *Merillus*. It will so pursue Larks, that it will follow them into a hot Furnace, or pit of water, or to mens cloaths, *Cresent. l.* 10. *c.* 13. It fights with the Crowes and Foxes, breaking the eggs of the one, and killing the Cubs of the other. To kill *Herons*, in *England* is a capital Crime, wherefore there are many of them in that place. They are so continent, that they are sad 40 dayes when they are upon venereous actions, *Glycas l.* 1. *Animal.* If they dung upon a Hawk, they corrupt and burn its feathers. When a showring is coming, they flie above the Clowds. They swallow shell-fish, shells and all; but when they think their heat hath opened them, they cast them up again, and eat the fish. They lie in wait for fish very cunningly; for they stand so against the Suns beams, that their shadow may not be seen to drive them away: But the Countrey men of *Colen* say they have such force, that if they put but a foot into the water, they will draw the fish to them as with a bait. *Gesner* writes, that he read in a *German* Manuscript, that if their feet be distill'd by descent, and a mans hands be anointed with the oyl, they will come to ones hands that they may be taken. *Franciscus Vallesius* the first, King of *France* kept them so tame, that though they be wild by nature, they would come home of themselves; some say, they sweat blood in Treading, but *Albertus* confutes that.

CHAP. IV.

Of the Horn-Owl *and* Aluco.

A*Sin*, or *Otus*, and a *Night-Crow*, makes such a noise, as a man doth that is chill'd with cold; they cry *hu, hu*. With his cry, and the bird *Cyncramus*, he leads the Quails when they depart hence. He imitates those things he sees men do: Also they watch fowlers standing over against them; wherefore they seem to anoint their eyes with a kind of bird-lime, then they depart and leave it in the holes; the *Otus* or *Dotrill* comes and glews his eyes together, and so is he taken. There are two kinds of *Aluco's*, the greater, and the lesse. The greater *Aluco* hath this property, that he winks with his eye-lid, he

hath

hath no little ears like horns, but in place of them he hath a kind of Crown-circle made of feathers that covers his whole face; small feathers rising above his eys, like a high ridge of a hair above the eye-lids; and on both sides they go about by the temples, and meet under the chin, like a womans kercher. The lesser is found in the clifts of Oaks that the Worms have eaten hollow. If he take any living creature he swallowes it whole; for his throat is so wide, that he will swallow bits bigger than egs; nor doth he eat any meat till he have plumed the feathers and hairs, and cast away the bones.

CHAP. V.

Of a Goose.

GEese in the Kingdom of *Senega*, are of divers colours. Whiter than Swans, and with red heads, are bred in *Hispaniola*, *Cadamust*. And *Odoricus à foro Julii* saith, That in the Kingdom of *Mancum* in *India* the superiour, they have a bone above their head as big as an Egge, of a blood red colour, and a skin hanging half way under the throat. *Aldrovandus* thinks, it is of the kinds of *Onocrotalus*. *Strabo l. 6. Geograph.* saith, there are none in the South part of *Arabia*. They live many years, *Albertus* saith 60, *Gratalorus* 200 years. But *Aldrovandus* writes, he should not take his oath for it. *Cardanus* thinks it not fabulous, because their flesh is so sound. For it is known, that a Wild-Goose hung up for 3. dayes continually, would not grow tender, and cast to the dogs they would not eat it. But amongst all kind of Geese, that is the most wonderful, which in *Scotland* they call the *Soland Goose*. *In Descriptione Scotiæ*, *Boetius* writes thus of it; Above other Islands, *Maya* of *D. Hadrian* is noble, for the reliques of him and his fellowes, who suffered Martyrdom for Christs sake. A Fountain of most sweet water runs forth of a very high rock in the midst of the Sea, a wonderful miracle of Nature. The Fort *Bass* that is invincible to mans forces stands upon it, and exceeds all the rest in strangenesse. Also there is a Rock situate in an arm of the Sea, that hath a narrow entrance, a Fisherman's Boat can scarce passe into it; that hath no houses made in it by art of man; yet is it hollow, and hath habitations as convenient in it, as if men had built them. But they are by this means the more forcible; whatsoever is in it, is full of wonderful things; For those Birds which in our Mother-Tongue we call *Soland Geese*, not unlike to those which *Pliny* calls *Water-Eagles*, dwell here in abundance, and hardly any where else. These so soon as they come at the beginning of the Spring, they do bring so much wood with them to build their nests; that the Inhabitants that dwell there (nor do they repine at it) carry away as much as serves them for fuel a whole year. They feed their young ones with the most choise fish. For if they have caught one, and they see a better swimming at the

the bottom of the Sea, they let that fall and plonge themselves violently into the waters to catch the other. When they have brought the fish to their young ones, they let men take away what they please willingly, and flie again to catch more. Also they let the people take their young ones without resistance; whence there accrues to the Governour of the Castle a mighty revenue yearly; for pulling off their skins with the fat, they make an oyl of them of great worth. Also they have a small gut that is full of oyl of great vertue, for it cures the hip and joynt Gouts; so that this Bird serving for all mans use, is inferiour to none, but that he is not common to be had: So far *Boetius*. When I was in *Scotland*, I smelt of them, and they smelt like Herrings.

CHAP. VI.

Of the Kings Fisher, *of* Ducks, *and the Bird* Emme.

IT is reported, that the *Kings-Fishers* build their nests of the hardest fish bones, and the sharpest thorns, and are seldom seen but at Sea, where the waters are salt. They breed about the midst of winter. Wherefore when it is a calm Winter, they call it *Halcyon dayes*, 7. dayes before the midst of winter, and 7. dayes after the midst of winter. In the first he makes his nest, in those last he breeds, *Plinii*. 5. *c*. 8. The nest is made like a Pine-Apple, or a glasse with a long neck, *Albert*. It is so artificially made, that it cannot be easily cut with a sword. But *Aristotle* saith, that if you break and bruise it with your hands, and then break it with an Iron, you may easily destroy it: That the Sea may not enter into it, she makes her hole of a spungy matter that will swell, and the swelling shuts up the entrance; Those that go in, do presse against it, and so presse out the water and find passage. The Shee of them so loves the Hee, that she is alwaies with him, and in old age carrieth him on her back; and they both die in copulation; *Plutarch. de solert. animal.* House-*Ducks* are known almost to all men; those of *Lybia* are of a middle stature, between a Goose and a Duck. Their genitall member is so great as a finger, is thick, and five times as long, and is red as blood, *Bellon*. Look on their eyes by the Sun, and you shall see a black spot on the top, which is in the Beaks of them, *Scalig*. They make no noise, though they have both Lungs and Wind-pipe. When our Country-people would keep abundance of them, let them keep two of our Ducks for each of those Drakes, and so they will lay abundance of Eggs. But the young Ducks so bred, will never procreate again, as other living Creatures that are bred of divers kinds. In *Ancyra* there are some that blow like a Horn, as those that sound when horsemen march in orders, *Auger*. They love their liberty so well, that being kept 3. years in a Cage, and fed, if they can find opportunity they will flie

 away.

away. There is such plenty of the wild ones, that they cover all the waters; but they live no where but in warm Countries. In the Winter, that they may not be Frozen in, by an instinct of nature, they swim circularly and on one side, they keep the waters open, and cry so lowd that they may be heard. When the cold grows too violent they flye aloft to the Sea, *Olaus, l. 19. c. 6.*

The *Hollanders* brought the Bird *Emme* from *Java*; it is twice as great as a Swan; black and with black wings. But out of two originalls there proceed two more, as it is with the Ostrich. It wants wings and a tongue; on the top of the head, it hath a buckler as hard as a Tortesse-shell, like a Target. It would swallow Apples as big as ones fist, and lumps of Ice; also burning Coles, and all without any hurt. *Aldrovand.*

CHAP. VII.

Of Barnacles.

THere is a bird in *Britanny* that the English call, *Barnacles*, and *Brant Geese*, the *Scotch* call them *Clakguse*; It is lesse than a wild Goose, the breast is somwhat black, the rest Ash-colour. It flies as wild Geese do, cries, and haunts Lakes, and spoiles the Corne. The learned question the original of it very much. For some say it breeds from rotten wood, some from Apples, some of fruit that is like to heaps of leaves; which when, at the time appointed, it falls into the water that is under it, it revives and becomes a living Creature. It grows in the Isle *Pomonia* in *Scotland* toward the North. And of this opinion is *Isidore*, *Alexander ab Alexandro*, *Olaus Magnus*, *Gesner*, *Boetius*, and others; contrarily *Albertus*, and those that are of his mind, hold that they breed by copulation. The *Hollanders* from their own experience in *Greenland*, affirm they found some *Barnacles* sitting on egs, and had young ones. But these things may agree together, for things bred of corruption may have eggs, and that seems also most clear that *Boetius* hath written concerning them. That every man may perceive they are not fabulous, I shall set it down. *Now it remains that we speak of those Geese which they call Clak-Geese; and which commonly they think amisse, to be bred upon Trees in these Islands, of which we were for a long time very inquisitive, and have found by experience. For I think the Sea between, is the greater cause of their generation than any thing else. For things are bred in the Sea variously; as we have observed. For if you throw wood into the Sea, in time worms breed in it, that by degrees have a head, feet, wings; and lastly, feathers. Lastly they are as great as Geese, when they are full grown, they flye upward as other birds do, using their wings to carry them through the ayre, which is as clear as day, and was seen in the yeare from the Virgins conception, 1490, Many looking on. For when some of this wood was carried by the waves to the Castle,* Pethschlogo, *in great quantity; they that first espied it, wondred, and ran to the Governour, and tell*

tell him this strange news. The Governour came, and did them see the Log in sunder; then they saw an infinite sort of living Creatures that were partly worms, some not formed, others were, and were partly birds; and some of them were callow, some had feathers. Wondring at the miracle, at the Governours command, they carried that Log into the Church of St. Andrew *at Tife where it yet remaines full of worm holes as it was. The like to this two yeares after, was brought into* Tiam *by the tide, to* Bruthe Castle; *many ran to see it, which again, two yeares after at* Leith *in the Harbour, all* Edinburgh *came to see. For a great ship, that had the name and the ensighe of* Christopher, *when it had been 3 whole yeares at Anchor in one of the* Hebrides; *was brought back hither, and drawn on land; that part of it that was alwaies under the Sea, had the beames eaten through, and was full of worms of this kind, partly unformed, not yet like birds, and partly those that were perfect Birds. But it may be some man will cavill at it, and say, that there is such a vertue in the boughs and stocks of Trees that grow in those Islands; and that the* Christopher *it self was made of the wood, growing in those* Hebrides; *wherefore I shall willingly declare what I saw 7, yeares since.* Alexander *Gallovidianus* Pastor of the Church of *Kildy* (a man besides his great integrity; incomparable for his care in study of wonders) when he had pull'd forth some Sea weeds, from the stalks and boughs, and likewise from the root, that grew up to the top where they joynd; he perceived some shell fish-breed: he frighted with the novelty of the matter; presently opened them to know farther, and then he wondred far more than before. For, he saw no flesh shut up in the shells, but (which is wonderful) a bird: Wherefore he ran presently to me whom he a long time knew, desirous to know such new things, and shew'd it me, who was not more astonished at the sight of it as I rejoyced at the occasion to see a thing so rare, and unheard of. By this, I think it is evident enough, that these are not the seeds of breeding of Birds in fruits of roots of Trees, but in the Sea it self, which *Virgil* and *Homer* rightly term the Father of all things. But because they saw that come to passe when the Apples fell from the Trees that grew on the shore into the waters, that by continuance of time Birds appeared in them, they were of that opinion, that they believed the Apples were turned into Birds, &c.* Thus far *Boetius.* Reader thou may'st judge of it: for my part I admire at Gods providence; and at the end of this Classis by way of Appendix, I shall add some thing out of the discourse of *Majerus* concerning the Tree-Bird.

CHAP. VIII.

Of the Owl *and* Catarrhacta.

THe *Owl* builds in the highest Rocks, that sometimes it is hard to find her eggs; for its young, *Pliny* saith, comes forth by the tail out of the egg, because the eggs being reversed by weight of their heads, brings the hinder part to be foltered by the dam. It is said, That

That in Churches she drinks up the oyl; she not onely kills Birds, but Hares also. A Duck hath been found in one cut open. The brain of it with Goose-grease doth wonderfully joyn wounds. The *Catarrhacta* hath a wonderful way of sitting on her eggs, if that be true that *Oppianus* hath written. She layes Sea-weed upon her eggs on a rock, and so leaves them open to the winds. Hence the male catcheth those eggs he thinks fit to breed the males, and the female doth the like for the females; then they carry them up on high with their Talons, and so let them fall into the Sea; doing this often, they grow hot by motion, and the young ones are hatched.

CHAP. IX.

Of the Feldifare *and* Goat-Sucker.

THe *Feldifare* makes her nest in the thickets; the walls are mosse, wooll, downy herbs; the ground-work is heath. They have six young ones, and they are so unlike their old ones, that they have scarce any mark like them; Because he flyes, he doth a little imitate the other Birds notes, he catcheth those that fly to him, and is easily taken himself; for when he sees a bird shut up in a cage, he flyes upon it to invade it. The *Caprimulgus* goes into the folds of shepherds, and sucks the Goats teats for milk; the udder loseth its force by this injury, and the Goats that are so suckt grow blind, *Pliny* l.10. *c.* 40. He sees little in the day, but is quick-sighted at night, *Arist. histor. l.* 9. *c.* 30. In *Candie* it makes such an horrible noise, that it will fright the Inhabitants, *Bellonius*.

CHAP. X.

Of the Cuckow.

THe *Cuckow* is a Bird of a very cold constitution of body, whence she is so fearful, that all the birds offend her, *Plin. l.*10. *c.*9. she breeds in other birds nests; especially, the Woodculver's, the hedge-Sparrow's, the Lark, the Red-breast and the Nightingall. If their nests be empty, she will not turn in there, but if there be eggs, she breaks some and sucks them, and layes her own in the room; in some nests they say she breaks them all, *Arist. l.*6. *c.*7. The young ones hatcht and known by the bird, are said to be beaten, and to fly away to their own dam. Note the goodnesse of nature! they say she layes in those Birds nests that feed on common meats; she feeds on Worms, Insects, and Corn. The Grashoppers before the dog-dayes when they hear the Cuckow sing, run upon her in troops, and they get under her wings and kill her, *Isidor. l.*12. *c.*8. They are said to be bred of Cuckow spittle. In winter she casts her feathers, and changeth her colour,

colour, *Arist. 9. histor. c.* 43. In a Mountain of *Greece* where many Cuckowes breed, it is said that a Holly Tree growes there, that what flying Creature soever sits upon it, is glewed fast as with bird-lime, except the Cuckow, *Plin. l.* 30. *c.* 10. In what place soever you first hear the Cuckow sing, if you make a circle about your right foot, and dig up that compasse of earth, no fleas will breed, wherresoever that is spread.

CHAP. XI.

Of the Crow.

IT is certain, that in the New World the *Crowes* are white; and *Alphonsus* King of *Cicily* had one. They say they grow white if the eyes be anointed with the brain or fat of a Cat, and be put under a white hen in a cold place. They flock together to a fruitful field, but two at once, where the field is not fruitfull. He hath many notes; they say 64; the proper note is croking; which he makes, being changed with no passion or variety of weather. He longs for raw flesh, and corrupt, and that dyed of it self; if he refuse this, it is an ill omen, as *Thucidides* observed in the Plague at *Athens*. *Julius Caesar Moderatus Ariminensis*, learned by experience, that he vomits up again the bones and the small feet. *Hyginus* denyes, that he can drink when he eath eaten figs, because then his throat is pierced thorow. He casts off his young ones if they be white; though they write, that seven dayes after they are hatcht, they become black. *Cassiodorus* thinks out of the Psalmist, that they then live upon dew. A tame Crow at *Erfurd* took money off of the Table and kept it, and did so exactly call *Conrade* the Cook when he was hungry, that you would believe it were a mans voice; then he pricked holes in a Musick-book that he found, as if he understood Musick, *Scalig. Exerc.* 257. *Barbarus* observed, that he carried fire in his mouth when Lightning fell. Some think he catcheth sparks of fire, instead of pieces of flesh, when exhalations take fire in Lightning. He is said to live 186 years. Indeed in a City of *France*, *Corvatum*, one lived 100 years, *Albertus* 9. *hist. c.*10. A certain Physitian that was famous in *Pliny* his days, burnt two Crowes to ashes taken out of the nest in the moneth of March, and being made into fine powder, gave them to people for the Epilepsie; one dram weight twice or thrice in a day, with water of the decoction of *Castorium*.

CHAP.

CHAP. XII.

Of the Rook, *and* Chrysaethos.

IN *Britany* there is abundance of *Rooks*, because the Sea washeth it on all sides; and in the grounds that are moyst there breed abundance of Worms for their food, *Cardanus*. *Ludovicus Rhodiginus* saw a white one, with a black head, not far from the walls of *Rhodigium*, *l.* 17. *Antiq. lect. c.*11. He loves Nuts chiefly, which if he cannot break, he lets them fall upon stones, *Aelian l.*3. *c.*9. They do not inconsiderately couple; for when one dyeth, the other lives single alwayes after. When Storks fly beyond Sea, this leads them. It is so industrious, that *Merthes* King of *Egypt* had one that would carry letters whither he sent him, *Porphyr. de abstin. ab animal.* When she is slain and remains dead till she stincks, she drawes mice, if you lay her in a place where you may kill them, *Gesner*. The *Chrysaethus* hath a tongue like a mans, armed on both sides toward the roots with two horny hooked appendices. The length is sometimes from the beak to the clawes four hands breadth and a half, the breadth is eight when the wings are stretched out. It layes but one egg; if it lay two, one is rotten.

CHAP. XIII.

Of the Pigeon.

THe *Pigeon* when she layes two eggs, the one egg will bring a male, the other a female; but because the heat is greater in the male, he is said to be first hatcht, *Paul. à Castro*. When the young ones are brought forth, she thrusts the salt Earth into their mouthes, which she hath first sitted in her own, to prepare them to receive some meat, and to implant fruitfulnesse into them, and to raise their appetite, *Athen. 9. hist. c.*24. Many things prove them to be apt to learn. One of them pecked corn out of *Mahomet*'s ear. When *Leyden* was besieged, some of them carried Letters, *Lipsius*. The same was done at the siege of the *Buss*. Divers men use divers remedies to keep them in the Dove-houses, and to allure others thither. Some stir Man's blood up and down in an earthen vessell for a quarter of an hour, with Pease, and then anoint Pigeons with it, and cast the pease to them to eat, *Gesner*. Some hang the skull of an old man in the Dove-house, *Albertus*. Some hang a piece of the halter that a man was hang'd with, on their windows, *Pallad. l.*3. *c.*44. *Pliny* (*l.*11. *c.*37,) writes, That there is poyson in mans teeth that will kill young unfeather'd Pigeons. We have it from the secrets of the *Egyptians*, that such as feed on Pigeons flesh will never be infected with the Plague. Hence in times of pestilence onely Princes

Princes feed on them. *Cardanus* prescribes them with their broth. Their dung is so hot, that being fired by the Sun, it hath fired houses, saith *Galen*. The same Author useth it for a heating remedy; and being bruised dry with the seed of *Cresses*, some apply instead of Mustard for a rubificative. *Anno* 1550. there was one taken in *Germany* with 4. feet, and 2. bellies; it was brought to the Emperour, and Electors; who all wonder'd at it.

CHAP. XIV.

Of the Swan.

THere are abundance of *Swans* in many places. In *Moravia* a Province of *Scotland* there is a Lake called *Spina*, it is noted for multitudes of Swans. For therein there growes a certain herb whose seed they feed greedily on; and therefore it is called Swans meat. The nature of that herb is, that cast into water it will never putrifie. Hence it is, that though the Lake be extended about five miles, and was wont, as men remember, to abound with Fish and Salmons; since that began to spring up, it hath increased by degrees, and hath made that Lake fordable, and that men cannot swim in it; nor is there any more any great Fish therein, *Boetius in descript. Scotiæ*. The internal constitution of Swans is wonderfull, *Aldrovandus* dissected them. The Intestines were 14. spans and a hand breadth long; and many of them were covered with fat inwardly, as thick as ones thumb, which served instead of a caul; which being not intricate with many windings and turnings, but onely by a single revolution are turned back into themselves inwardly, with a middle fundle, perchance some of the nutriment might passe by not distributed; but nature, to help this inconvenience, hath fastened two blind guts, a hands breadth between the *anus* and their beginning: the right intestine passing between, which should make amends for the windings of the guts that are deficient. The gullet is of a wonderfull structure. For the sharp artery that accompanies the wesand under it, descending to the throat, when it comes there, doth not tend directly to the Lungs as in other Creatures, but is elevated above the chanel bones, and is inserted into a rib of the breast-bone, or Sternon. And this rib is not made of one single bone, but of two side ones, and a third from above, made for a covering to lye upon these; and it is like a scabberd or sheath, and serves for the same use. When the Artery comes to the end of it, it is bent backwards beneath like a Serpent in fashion of the letter S; and by and by it goes forth again beneath the foresaid part of this covering that was placed above it, and ascending to the middle of the channel bones, it leans upon their coupling as on a prop; and being so upheld, it is again bent backwards like a Trumpet, and going under the hollow of the Thorax, before it comes to the lungs, it makes as it were another Larynx, cut athwart, and with a little

little bone as long as this is broad, and which is covered with a thin membrane; it represents a hollow pipe, or an Organ pipe, in figure and composition, which are open in the neather part of them with the like fissure. Under this Larynx the artery is parted into two channels, each of which in the middle are stretched out wider, and stick forth, and are distributed, going directly to the very small Lungs, that are wholly fastned to the sides behind. This is a wonderfull composition, and it serves for the breathing and voyce. For when in the bottom of Lakes she seeks for her food, she needed a long neck, lest by long continuance she should be in danger to be suffocated by such an Artery. And indeed whilest for half an hour almost she thrusts down her head into the water, she takes breath by that part of the Artery which is open in the sheath we spake of in the breast. As for its singing, some say she sings before her death, and some deny it. *Oppianus* saith, she sings early before Sun-rising; but as she is very near her death, she sings on the Sea-shores, but not so loud in her old age. The West wind, he adds, is observed by them when they sing, when they are feeble and their strength is spent. The fashion of their sharp artery seems to make good this opinion.

CHAP. XV.

Of the Stork.

THe *Storks* of old time about *Fidena*, neither made any nests, nor fed their young ones. Also at the Lake *Larius* in *Italy* beyond *Poe*, a pleasant place with small Trees, they are hardly seen, *Pliny*. The Author of the book of Nature writes, that they neither come into, nor will inhabit a City in *Germany* where no tythes are paid. They are travelling birds; but it is a question whether all or not. Many as if they were dead, were drawn forth in Fishers nets, and these were joyned together, and had their bills thrust into their *anus*, together, and being hot in Minerall waters they lived again. In *Lorenge* it is certain, that it so happened, *Anno* 1467, as *Campofulgosius* reports, *l.* 1. *memorab.* when they depart, they meet all at a set place of rendevouz, and will leave none of their company behind. It is observed, that they are seldom seen after the Ides in *August*; when they are costive they thrust their bills into their *Anus*, and give themselves a Clyster, that brings forth the faeces, and thence Chirurgions learn'd that art. They are very chaste and gratefull. One of them in upper *Vesalia* bade his Host farewel when he departed, and when he return'd, he saluted him again. And not content with a vocall gratitude, he brought him a root of green Ginger. Another pickt out the Eyes of one that lay with his Hostesse when his Host was abroad. Another finding out the adultery of his mate in his absence, brought more company and tore her to pieces. The *Stork* carries his aged Parents upon his shoulders, and feeds them out of his mouth. Whence the word

word of gratitude is *ἀντιπελαργία*, *Gesner*. By the example of *Attila* it is apparent, that she foreshews things future; for he, as *Æneas Sylvius* writes, unlesse he had seen *Storks* from the high Towers of *Aquileia*, would have departed thence; and supposing that to be a token of taking the City, he held on his purpose, and shortly won it, when he had besieged it 3 years. There are none in *England*, as *Cl. Bandarcius* saith.

CHAP. XVI.

Of the Faulcon.

A *Faulcon* is so strong, that when he strikes a bird, he will cut him in two, from head to tail. A Sea-Swallow call'd *Drepanis*, a little Bird about Lakes, when she hears the Castrel, will rather let men stone her, than she will rise. She is wont to be sick of a disease the Faulconers call the *Filandre*. That is, a kind of worms not far from their reins, near to which they are wrapt up in a thin and proper membrane: they are as small as hairs, and half an ell long, so may be from their first originall; unlesse you prevent them, they will eat up the principall parts and the heart. The *Gyrfaulcons* are of divers kinds; They are some white found in *Moscovy*, *Norway*, *Ireland*. They are bold: If one of them be let fly at five Cranes, he will follow them all till he have killed them. The food of it reserved in its Cave, it will take in order. She never wets her self with water, but onely with sand. She loves the cold so well, that she will always delight to stand upon ice, or upon a cold stone: sometimes untaught she is sold for 50 Nobles. There is a Faulcon called *Rufeus*, because the spots, that are white in the rest, are red and black in this kind; yet they seem not to be so, but when she stretcheth forth her wings. The cause of this redness is a feeble colour infused into the superficies of the body, and inflaming the smoaky moysture, which is put forth to breed the feathers.

CHAP. XVII.

Of a Hen *and* Cock.

HEns in the Kingdom of *Senega* are thrice greater than ours; there are many near to *Thessalonica*; some lay two eggs, that is with two yolks, which are parted by a partition, that they may not be confounded. *Aristot. in mirabil.* reports, that some have laid 38 double ones, and to have hatcht them; one chicken was greater than another, and at last it became a Monster. In *Macedonia* there was one Hen which once laid 18 eggs, and hatcht two young chickens at once, saith *Pierius l.* 24. *Hieroglyphic.* But their eggs, as also divers

birds

birds eggs, are first conceived above, where the partition is, where first it is seen to be faint and white, as *Aristot.* writes; than red and bloody; and as it increaseth, it becomes all yellow; but as it more increaseth, it is distinguished, so that the yellow part is inward, and the white goes outwardly about it; when it is perfect, it is finished and comes forth of the shell, soft at first hatching, but presently it growes hard. The place of its perfection is the Matrix it self into which they fall, *Aldrovand. l.14. Ornithol.* Some report also, that a *Cock* layes an egge when he is 9. or 14. years old; and they suppose it proceeds from seed putrified, or ill humours concurring together. It is thought to be round, and to be laid about the rising of the Dog-star. For the expulsive faculty being then weak, is helped in an aged Cock by the outward heat. With *Ferrans Imperatus* an Apothecary, one was seen that was long fashioned, *Aldrovand.* The Cocks are wonderful salacious, for they will tread the Hens 50 times a day, and they have been seen to ejaculate their seed when they but saw the Hen, or heard her note, *Ælian.* There was an old Law, as *Plutarch* saith, *in Libro, Num bruta ratione careant,* That if one Cock trod another, he should be burnt alive. When he finds he is too full of blood, he will scratch his comb till he fetch blood. All men know he Crowes in the morning. Some say the cause is, the Love he hath to the Sun; some, to his venery; others to his desire of meat. The *Mahumetans* say, they answer a Cock that crowes in heaven, *Keckerm: in Physicis.* The first reason seems something; for he will crow when he is full also, and after copulation; also he crowes when the Hen is present; but when he is gelt he crowes no more, *Plin.* Yet *l.29. c.4.* he saith, That, a circle of Vine-twigs tied about his neck, he will not sing; *Albertus* saith, if his head and forehead be anointed with oyl. He is at great Amity with the *Kings-Fisher*, that if they be both in the same house, and the Kings-Fisher dye, the Cock will dye with hunger. They that have fed on Fox flesh boyl'd, are free for two moneths from their Treachery, *Boetius.*

As for a Dung-hill Cock, *Gesner* saith, he found it in a *German* Manuscript; that a Noble-man having tryed all remedies for pains of the Collick, and finding none; at length he drank a small cup of Capons-grease unsalted, boyl'd in water. But (saith he) you must drink the fat that swims on the top, as hot as you can.

CHAP. XVIII.

Of the Crane *and the* Woodwall.

THe *Cranes* travell all over the World. Yet *Aldrovandus* saith, he scarce believes that they will live willingly in all Countries, *l.20.* The *Aspera arteria* of them is set into the flesh on both sides, at the Breast-bone; whence you may hear a *Crane* afar off. They travel, but no time is set; yet how swiftly they fly, is manifest by the example

example of *Cyrus*, who was said to to have disposed of his Posts at certain stages, that when one was weary, another should proceed night and day, that they out-went the Cranes that flew. When they fly, they keep a triangular sharp angled figure, that they may the easier pierce through the Ayr that is against them. That Crane that gathers the rest together, will correct them, as *Isidorus* saith. When one is hoarse, another succeeds. When they light upon the Earth to feed, the Captain of them holds up his head to keep watch for the rest, and they feed securely. Before they take rest, they appoint another Sentinel, who may stand and ward with his neck stretched forth, whilest the rest are asleep, with their heads under their wings, and standing upon one leg. The Captain goes about the Camp, and if there be any danger, he clatles. Lest they should sleep too soundly, they stand upon one foot, and hold a stone in the other above ground, that if at any time being weary they should be oppressed with sleep, the stone falling might awaken them. They love their young ones so much, that they will fight whether shall give them their breeding. *Albertus* saw a male-Crane cast down a female and kill her, giving her eleven wounds with his bill, because she had drawn away his young ones from following of him. This fell out at *Colen*, where tame Cranes use to breed. Those are fables that men relate of the Battels between the Pigmies and the Cranes. The *Woodwall* hangs up her nest on the boughs like a Clip, that no four-footed beast can come at it. The nest is like to the fashion of a Rains-stones, *Albert. Magn.* Some say there is Silk found in it, and that the nest is built not far from the water, made of moss, and the cords it hangs by are horse hairs. She leaves *Italy*, when *Arcturus* ariseth. As she hangs down, she sleeps upon her feet, hoping for more safety thereby, *Plin. l.10. c.32.* When she comes into *Germany*, there is great hopes that Winter for Snow and Frost is gone.

CHAP. XIX.

Of the Chough.

IT is thought that the *Choughs* feed on Locusts besides Corn, because the Inhabitants of the Island *Lemnos* were reported to worship these birds, because they flew to destroy the Locusts, *Plin. l. 10. c. 29.* The males will rather lose their lives than part with their females. They fly at the eyes of him that holds them. The reason is rendred by *Nicolaus Leonicus*, because the eyes are shining and very moveable: and these birds are bred to allure and draw things to them. For Birds are wont to pick and scratch at ones finger that is often moved about their bills, or because the eyes are such perfect Looking-glasses, that the pupill that is so small will represent their image standing over against it; now when the Birds see their own shape in our

our eyes, they, it is likely peck at them, as desirous to come to what they delight.

CHAP. XX.

Of the Swallow.

Swallowes are found almost in all Countries: Yet *Pliny* saith, they will not fly right to *Thebes*, because they are often taken there; Nor are they found in *Bizia* in *Thracia*, by reason of the wickednesse of *Tereus*. They can endure no cold. Hence *Claudian* writes,

As when cold Snow and Frost, like feathers, fall
On Trees, the Winter-Swallowes die withall.

Where they live in Winter, is diversly described. It is certain, that in hollow Trees lying many close together, they preserve themselves by mutual heat. But *Olaus Mag. Episcop. Upsalensis*, saith, That in the Northern parts where men dye of cold in winter, the Swallowes live in the water. Though, saith he, many Writers of Natural Histories affirm, that *Swallowes* change their stations, that is, do go to hotter Countries in Winter; yet in the Northern parts, *Swallowes* are often drawn forth by Fishermen by accident, like a congealed Mass, and they have united themselves together, bill to bill, foot to foot, wing to wing; after the beginning of Autumn, to go amongst the reeds, &c. When that masse is drawn forth and put into a hot-house, the *Swallowes* are thawed by heat coming to them, and so begin to fly; but they last but a very short time, because they are not made free, but captives, by being taken too soon. In *Egypt* their wonderfull Industry is seen: For in the mouth of *Heraclia* in *Egypt* they make such an impregnable Mount with their nests continued together against the overflowing of wandring *Nilus*, for a furlong in length, that it is thought no man could do as much, *Pliny*. In the same *Egypt* near the Town *Coptus*, they say there is an Island consecrated to *Isis*; which that the same River may not demolish, they fence by labour, in Spring-time, making firm the mouth of it with straw and stubble, for 3. nights together, labouring so hard, that many dye of it. Their young ones are bred blind, if we believe the Philosopher, and *Pliny*; when they receive their sight but slowly, they hasten it by putting Celandine upon it. Their copulation is wonderful: For when the rest of Birds are trod by the old ones, *Swallowes* couple a contrary way, *Gesner*. *Jacobus Olivarius* saith, he heard from *Hieronymus Montanus* an excellent Physitian, that *Swallowes* hearts being taken with Cinnamon, and Species of Pills *Elephanginæ*, they will help memory. Hence *Johannes Ursinus* writes,

——with

——*with amomum eat their heart;*
And wit and memory will gain their part.

CHAP. XXI.

Of the Osprey, *the* Ibis, *and the* Loxias.

OF *Ospreys*, or Sea-Eagles, some are said to have one foot like an Eagle, and hooked; the other, plain like a Goose, to swim withall; that it hath also costly Fat in the tail, and that he flies in the Ayr, and hangs there as it were, and lets drop some of this fat into the water, whereby the fish are astonished; that they turn upon their backs, and so he catcheth them, as some say. *Ibis* is a Bird so loving to *Egypt*, that it will live no where else; so soon as it is hatcht, if it be weighed, it weighs two drams. *Plutarch. de avib. l. 4. c. 9.* The heart is greater than is proportionable to the body. The Gut is 96 cubits long; and that in the wain of the Moon is pressed together, till the light of it increasseth again, saith *Gaudentius Merula*.

The Lakes in *Arabia* send forth such multitudes of winged Serpents that are of so sudden a venomous nature, that when they bite, they kill before the wound can be perceived; these birds by a kind of foresight, are stirred up, and fly forth in Troops and meet these pestilent multitudes in the Ayr, before they wast their Coasts, *Marcel.* *Loxias*, in respect of its bill, it differs from all other Birds. Whence *Aristotle* thinks it is not known. It is wont to have a red breast, neck and belly, but in winter it changeth its colour. It delights in Hemp-seed, dead carcases and kernels of the Fir-Tree, and it builds in such Trees in January and February. In Winter when all things are frozen, it sings, but forbears in Summer.

CHAP. XXII.

Of the Kite.

KITES live almost every where, but they change their quarters; especially if they be neere. For otherwhiles they are found in hollow Okes, cherishing themselves with the rotten dust. About *Pontus* neere the Sea *Euxinum*, they are seen in such abundance in Winter, that if for 15. days so many should fly thither, as *Bellonius* saw in one day, they would be more then all Mankind. They bring the Cuckow with them on their backs, because he cannot flye so far, *Isidore*. The scripture ascribes to them the knowledge of the change of times. *Jerem. c. 8.* About the Dog-dayes, she flyes up to the middle

dle region of the Ayre, because it is cold, and sits there till the evening. *Herodot. l. 2.* Yet in *Lybia* and the Island of St. *Dominick*, they are alwaies; also at *London*, because it is not lawfull to kill them. Hence amongst multitudes of people they will catch up their prey, (any filth that the Inhabitants cast forth into the City, or into the Thames) *Clus, l. 2. c. 36. in observat. Bellon.* They will take meat out of the Shambles, bread out of Childrens hands, and hats off of mens heads, especially when they make their nests. *Ælian, l. 2. c. 47.* In the first yeare they persue great birds; when they grow older, little birds; and in the third yeare, gnats and flies. *Apuleius* speaks much of their sight. *Aristophanes* calls them all-eys. They flye so high that somtimes they are out of sight, so farr that they pass through the Ayre every where, and they flye so swift that they will catch any garbage thrown forth before it touch the ground. *Bellonius, l. 2. de Avib, c. 26.* Somtimes they will ballance themselves in the Ayre, not stirring their wings in an hour; for, lifting up their wings a little in part, where the Ayre goes under them, they receive the Ayrs motion with their whole body, and so they are held up. It neversits on a Pomegranat Tree, nor can it endure the sight of it; and it delights to behold an Owle. Burnt alive in a pot it is said to cure the falling sicknesse.

CHAP. XXIII.

Of Manucodiata *and the* Cormorant.

Aldrovandus observed five kinds of the *Manucodiatæ*; none of their bodies was much bigger than a Swallow, and their heads were like to them. They are said to live alwaies in the Ayre, and to rest firme without any, but a tonick motion; for they want feet, and never come to the ground, but when they are dead. This is a fable; for they could hardly sleep there, when their senses are bound up; For all their exercise is a tonick motion. It is like to that, That there is a hole in their back in the muscles, where the Female that hath a hollow belly lays her eggs. *Aldrovandus*, who saw these *Manucodiatæ*, never found any such thing. And that is like this, that they feed on dew; because they flye so high, that they cannot alwaies meet with Dew. But that must alwaies be restored, that alwaies wasts. *Bellonius* saith that the *Janissari*, people of *India*, deck themselves with their feathers. They think that under their protection they shall be out of danger in the head of the battel. The *Mahumetans Marmin* perswaded their Kings that they came from Paradise, as tokens of the delights of that place. The *Cormorants* are taken in the East to catch fish with. *In a certaine City*, saith Odoricus *à* Foro Julii, *scituate by the great River in the East, we went to see our host fish. I saw in his little ships, Cormorants tied upon a perch, and he had tied their throat with a string, that they should not swallow the fish they took. In every bark, they set three great panniers, one in the middle, and at each end one; then they let loose their Cormorants*

morants, who presently caught abundance of fish, which they put into the Panniers, so that in a short time they fill'd them all. Then mine host took off the traps from their necks, and let them fish for themselves: when they were full, they came back to their pearches and were tied up againe, Scaliger writes that the same was done at *Venice*. They put their heads deep into the water, and perceive the change of the Ayre under the waves, and when they perceive any tempest, they flye to the land, making a noise. *Isidore, l. 12. c. 7.* *Mizaldus* saith, that Vapours rise up from the waters that cause rainie Clowds, and they cunningly observe it. The liver of them boyld, and eaten with Oyle and a little Salt, is so present a remedy against the biting of a mad dog, that the sick will presently doffe water, *Aetius*. The same continued with Salt, and drank with Hydromel two spoonfulls, will drive forth the second birth. *Dioscorides*.

CHAP. XXIV.

Of the Owl *and* Musket.

Owls were formerly plentifull in *Athens*; in Candie, they neither breed, nor will live, brought thither. Also in Mountain Countries of *Helvetia* there are none. They sit close 60 dayes in Winter. They are not hurt by fasting 9, dayes. *Plin. l. 10. c. 27.* *Eustatius* says they see in the dark, when the Moon is hid; but hardly for want of a Medium. *Crescent, l. 10. c. 16.* yet they cannot see in the day, by reason of too dry and thin substance of the humour which is dissipated by the fiery substance of the light. He makes a double noise, the one is *Tou, Tou*, the other noise they call Howling. She is so great enmity with Crows. *Pausanias* reports, that the Crows snatche away the picture of an Owl that was to be sold, and earings of Gold out of ones hand, that were made like Dates. It is commonly observed that if the Owl forsake the Woods, it signifies a barren yeare. Owls egs given for three days in Wine to drunkards, will make them loath it. *Plin.* The *Musket*, in Winter sits in Woods that use to be lopt, and comes not to her place till Sun set. When she looks upon any thing, the black of the pupill of her eye grows greater then ordinary. We read of this bird in the Salick lawes, that he who should steal one, if he be taken, must pay 120 *denarii*.

dle region of the Ayre, because it is cold, and sits there till the evening. *Herodot. l. 2.* Yet in *Lybia* and the Island of St. *Dominick*, they are alwaies; also at *London*, because it is not lawfull to kill them. Hence amongst multitudes of people they will catch up their prey, (any filth that the Inhabitants cast forth into the City, or into the Thames) *Clus, l. 2. c. 36. in observat. Bellon.* They will take meat out of the Shambles, bread out of Childrens hands, and hats off of mens heads, especially when they make their nests. *Ælian, l. 2. c. 47.* In the first yeare they persue great birds; when they grow older, little birds; and in the third yeare, gnats and flies. *Apuleius* speaks much of their sight. *Aristophanes* calls them all-eys. They flye so high that somtimes they are out of sight, so farr that they pass through the Ayre every where, and they flye so swift that they will catch any garbage thrown forth before it touch the ground. *Bellonius, l. 2. de Avib, c. 26.* Somtimes they will ballance themselves in the Ayre, not stirring their wings in an hour; for, lifting up their wings a little in part, where the Ayre goes under them, they receive the Ayrs motion with their whole body, and so they are held up. It never sits on a Pomegranat Tree, nor can it endure the sight of it; and it delights to behold an Owle. Burnt alive in a pot it is said to cure the falling sicknesse.

CHAP. XXIII.

Of Manucodiata *and the* Cormorant.

Aldrovandus observed five kinds of the *Manucodiatæ*; none of their bodies was much bigger than a Swallow, and their heads were like to them. They are said to live alwaies in the Ayre, and to rest firme without any, but a tonick motion; for they want feet, and never come to the ground, but when they are dead. This is a fable; for they could hardly sleep there, when their senses are bound up; For all their exercise is a tonick motion. It is like to that, That there is a hole in their back in the muscles, where the Female that hath a hollow belly lays her eggs. *Aldrovandus*, who saw these *Manucodiatæ*, never found any such thing. And that is like this, that they feed on dew; because they flye so high, that they cannot alwaies meet with Dew. But that must alwaies be restored, that alwaies wasts. *Bellonius* saith that the *Janissari*, people of *India*, deck themselves with their feathers. They think that under their protection they shall be out of danger in the head of the battel. The *Mahumetans Marmin* perswaded their Kings that they came from Paradise, as tokens of the delights of that place. The *Cormorants* are taken in the East to catch fish with. *In a certaine City*, saith Odoricus *à* Foro Julii, *scituate by the great River in the East, we went to see our host fish. I saw in his little ships, Cormorants tied upon a perch, and he had tied their throat with a string, that they should not swallow the fish they took. In every bark, they set three great panniers, one in the middle, and at each end one; then they let loose their Cormorants*

morants, who presently caught abundance of fish, which they put into the Panniers, so that in a short time they fill'd them all. Then mine host took off the straps from their necks, and let them fish for themselves: when they were full, they came back to their pearches and were tied up againe; *Scaliger* writes that the same was done at *Venice*. They put their heads deep into the water, and perceive the change of the Ayre under the water, and when they perceive any tempest, they flye to the land, making a hole. *Isidore, l. 12. c. 7.* *Mizaldus* saith, that Vapours rise up from the waters that cause rainie Clowds, and they cunningly observe it. The liver of them boyld, and eaten with Oyle and a little Salt, is so present a remedy against the biting of a mad dog, that the sick will presently desire water, *Aetius*. The same, continued with Salt, and drank with Hydromel two spoonfulls, will drive forth the Second birth. *Dioscorides.*

CHAP. XXIV.

Of the Owl *and* Musket.

Owls were formerly plentifull in *Athens*; in Candie, they neither breed, nor will live, brought thither. Also in Mountain Countries of *Helvetia* there are none. They sit close 60 dayes in Winter. They are not hurt by fasting 9 dayes. *Plin. l. 10. c. 27.* *Eustatius* says they see in the dark, when the Moon is hid; but hardly for want of a Medium. *Crescent, l. 10. c. 16.* yet they cannot see in the day, by reason of too dry and thin substance of the humour which is dispersed by the fiery substance of the light. He makes a double noise, the one is *Tou, Tou*, the other noise they call Howling. She is at great enmity with Crows. *Pausanias* reports, that the Crows snatche away the picture of an Owl that was to be sold, and earings of Gold out of one's hand, that were made like Dates. It is commonly observed that if the Owl forsake the Woods, it signifies a barren yeare. Owls egs given for three days in Wine to drunkards, will make them loath it. *Plin.* The *Musket*, in Winter sits in Woods that use to be lopt, and comes not to her place till Sun set. When she looks upon any thing, the black of the pupill of her eye grows greater then ordinary. We read of this bird in the Salick laws, that he who should steal one, if he be taken, must pay 120 *denarii*.

CHAP. XXV.

Of Onocrotalus, *and* Rhinoceros.

ONocrotalus is from the tip of his bill, to the bottom of his feet, ten spans and more in magnitude, *Aldrovandus*. His wings stretched forth make ten spans; under his lower mandibule, there is a receptacle like a bladder, as long as it, that hangs down at length. And that is so great that a very great man thrust in his leg as far as his knee, with a boot on, into his Jaws, and pull'd it out again, without harme. *Perottus Sanctius* reports that a little Blackmore was found in one. At *Mechlin* there was one of 80, yeares old, and for some yeares he went before the camp of the Emperour *Maximilian*, as if he would determine the place for them. Afterwards he was fed by an old woman at the Kings cost, who was allowed for him 4, Stivers the day, she fed him 56, yeares, when he was young he would somtimes fly so high into the Ayre, that he seemed no greater than a Swallow, *Gesner*. Also the cubit bones of his wings were covered with a membrane, out of which there arose 24, Tendons, that were so firmely set into them, that there was no way to part them. *Gesner* writes that he heard, he was wont to come once a yeare about *Lausanna* by the Lake *Lemannus*. *Rhinoceros* is a bird whereof one was kild in the Ayre flying, at what time the Christians conquered the *Turk* in a Sea fight. The head was about two spans, adorned with black tufts of feathers, very long, and that hung downwards. The Beack is almost a span long, bent backward like a bow. A horn grows out of its forehead, and sticks to the upper part of his Bill, of a great magnitude. For about the forehead it was a hands breadth. *Aldrovandus* thinks it is, *Pliny* his *Tragopanada*.

CHAP. XXVI.

Of the Parrot.

THe Antients knew but one kind of *Parrots*; but those that have seen the *Indies*, have found above a hundred kinds, different in colour and magnitude. *Vesputius* writes that in a Country above the promontory of good hope, that hath its name from *Parrots*, they are so high that they are a cubit and halfe long. *Scalig. exerc.* 236, saith, he saw one so great, that he almost fill'd up the space of the lattice of a Window: Some are no bigger than a Thrush, or Pigeon, or Sparrow. No man could hitherto paint sufficiently all its colours, they are so many. In burning *Æthiopia*, and the farthest *Indies*, they are all white; in *Brasil*, red, in *Calecut*, they are all Leek green, Watchet, or Purple coloured. *Scalig. Exerc.* 59. *f.* 2. The Antients esteemed the Green best. The head and beck of it are extreme hard: wherefore, when they teach him to speak, it feels not, unlesse you strike i with

with a wand of Iron, woodden rods will do no good, and it is dangerous to do it with Iron ones. The *Parrot* alone with the Crocodile, moves his upper mandible; also his Beck, which is common to no other, where it is joyned to his neck, is open beneath under his chops. His tongue is broad like to a mans, and represents the forme of a gourd seed, the feet are like Woodpickers feet. In the desert of *Presayter John*, they are found with two Claws. He puts his meat in his mouth like as men do. He not only cuts insunder the Almonds; but by rowling them in the hollow of his Beck, and pressing and moving it with his tongue, he breaks them, and chews them as it were; and then swallows them. Nature gave this bird a crooked bill like halfe a circle, it is very strong; Because she is of a clambering disposition, and hath not feathers in her taile that she can fasten into a Tree, she had need of a strong beck, that she might first cast it in like a hook, and by that she might raise her body, and then take hold with her feet. They live in hot Countries. In the Country of *Parrots* they are so cheap, that one may be bought for two pence. They alwaies flye by couples; and lest they should hurt their weak feet when they light upon the ground, they trust to their strong beck; and break the fall with lighting upon that. They imitate a man, they learn his words and will pronounce all almost with an articulate voyce. One was taught that would say the Creed to a Cardinal. *Scalig. exerc.* 238. He will answer questions. *Henry* the eight, King of *England* had one that fell into the Sea, and cried for help, promising 20, pounds, but when he was pull'd forth, he bad, Give a Groat. If you stroke her gently, she will kisse you, *Scalig. exerc.* 236. Amongst mourners she will lament also. *Tiraquel* saith, that the females do never or very seldome speak like to Men. They are so simple that when a *Parrot* cries in a Tree, and the fowler sits close in the boughs of the same Tree, great multitudes of them will flye thither, and suffer themselves to be easily taken. *Pet. Martyr in Decad. Oceani.* They are fed and grow fat on wild saffron seed, that is a purgative to men. They will hang by the heels with their heads down toward the water, and their tails upwards. They build in a high Tree. They bind a branch that hangs down, with small twigs to the top, and they hang their nest upon it as round as a ball, with a little hole in it. They lay eggs fit for their bignesse. They dye by much rayn. They are sacred amongst the *Indians*, but not so in *Columbus* days.

CHAP. XXVII.

Of the Phœnix *and* Woodpecker.

Claudian describes the *Phœnix*, thus.

A fiery mouth with sparkling eyes,
A glittering crest like Sun with Skies;

The legs are of a Tyrian dye,
Lightning the Ayre as she doth fly.

She is reported to inhabit *Arabia*, and chiefly *Heliopolis* a City of *Ægypt*, where she was seen. Her nest is made of spices, namely Cinamon, and *Cassia* neere to *Nilus*; she sits in it, and by waving her wings she kindles a fire, from her ashes a Worme breeds, from that a young *Phœnix*. *Oppian* doth not so much as speak of the Worm. Men write diversly of her age. The common opinion is 500 years; some say, she lives 1461 years. But all this is false. The *Woodpickers* have a sharp bill, that is hard round and strong, to pick holes in Trees with. They have a long tongue that is extended to the hinder part of their head, and is wrapped up over all the crown of the head like a clue of yarn, it is exceeding sharp, and the end of it is gristly. They feed on Wormes, and when they seek for them, they will so exceedingly make Trees hollow, that they will throw them down. *Arist. l. 9. hist. c. 9.* Their nest is made so artificially, that the sticks put together they make it of, are better to pull a sunder with ones hands than to cut in peices with a sword. *Pliny* reports that the young ones come forth of their eggs with the tayle first, because the weight of their heads turns the eggs upside down, and so the dam sits on their tails. They never sit on stones for fear of hurting their sharp claws. They climb unto the top like Cats, and that backwards. In what Tree soever they breed, no naile nor wedge can stick in it, but when it is fastned, it will fall out with a cracking of the Tree, *Plin. l. 10. c. 18.* Men suppose that she hath the greater Moon-light, an herb, that increaseth and diminisheth.

CHAP XXVIII.

Of the Pie.

THe *Pie* almost every hour changeth her note; she learnes and loves to speak as men do. One at *Rome* hearing the Trumpet sound, at first was astonished, but came to her self, and did perfectly imitate the same, *Plutarch*. If she be catcht in a Snare, she will move nothing but her beck; lest, moving her body, she should be more ensnared: when rapes are sowed, then is the time for her to moult her feathers. Her feathers being pul'd off, and her guts taken out, if she be boyl'd in White Wine till the Wine be consumed, and the flesh part from the bones; and then she be bray'd with the broth, and so set for three days in the Sun, and then applyed to the eys with a fine rag, it will cure the roughnesse, darknesse, and rednesse of the eyes. The *Pye* that feeds on mosse, hath blew overthwart marks on the sides of her wings, you shall seldome see the like in any other bird, she hath a throat so wide, that she will swallow Chestnuts. The *Pye in Brasil* hath a bill two hands breadth long, and one almost in breadth, measured

tured from the bottom of the lower part, to the top of the upper part. The substance of it is very thin like a parchment; yet bony, shining, hollow, and most capacious as the Ear; also it is dented and made up as it were with certain skales; she feeds on pepper, but she presently casts it up again raw, and indigested.

CHAP. XXIX.

Of the Peacock.

OF old *Peacocks* were rare in *Europe*; when *Alexander* saw one in *India*, he forbad to kill it on pain of death; but afterwards in *Athenæus* his time they grew so common, that they were as ordinary as Quails. In the Land *Temistana*, they lay sometimes 20 or 30 eggs, *Martyr*. They are so cleanly, that when they are young, they will die if they be wet; *Albert*. When they want cooling, they spread their wings, and bending them forward, they cover their bodies with them, and so drive off the force of heat: but if the wind blow on their back-parts, they will open their wings a little, and so are they cooled by the wind blowing between. They are said to know when any venomous medicament is prepared, and they will fly thither and cry. *Ælian* reports, that a *Peacock* will seek out the root of flax as a natural Amulet against Witchcraft, and will carry it thrust close under one of its wings. The *Peacock* suffers such languishing pains as children are wont to suffer when their teeth first come forth, and they are in great danger when their crest first grows out, *Palladius l. 1. de re rustica c. 20.* When in the night they double their clanging note, it foreshews rains at hand. The cause is said to be, that by doubling of that troublesome noise, is shewed, that with heat that sharp vocal spirit breaks forth, *Mizaldus*. Their flesh will not corrupt easily. After a whole year it will not stink, onely it appears drier. *Antonius Giggs* gave a piece of the boyl'd flesh to *Aldrovandus* in 1598; it was boyl'd *Anno* 1592; and it was full of round holes quite through, like a sieve, out of which, if it were a little shaked, dust did fall, as rotten powder doth out of some Trees; it was salt in taste, and somewhat bitter, *Aldrovand.*

CHAP. XXX.

Of the Pheasant *and* Sparrow.

IN the Country of *Curium*, *Pheasants* were so common, that the Christians coming thither, bought them for two little pins apiece, *Martyr. l. 8. Decad.* *Frederick* Duke of *Saxony* let fly 200 in *Saxony*, and forbad any man to catch them. In the places of *Scandinavia*, they lye under the Snow without meat, *Olaus*. When they grow fat they lose

lose their feathers. The *Sparrow* doth so fear the Hawk, that one that was pursued flew into *Xenocrates*'s arms. It is the lustfullest almost of all Birds; for it hath been seen to tread 20 times in half an hour, *Scalig.* It will devour venomous seeds without any hurt. Some ascribe that to the smallnesse of its veins. An herb, the name whereof is not known, being put under ground in 4. corners of a Cornfield, will drive them from the Corn, *Pliny.* Others bid carry a red Toad through the field by night, before it be sowed, and to be buried under ground in the middle of the field, shut-up in an earthen vessel. Yet, lest the corn should grow bitter, it must be dug up again before harvest. Those of *Taprobana*, when they are in the deep Sea, let fly Sparrowes they brought with them for that end; and by their conduct, because they know not the use of the Loadstone, they find the way home, *Acosta.*

CHAP. XXXI.

Of the Partridge.

IN that part of the World that is called the *Continent*, *Partridges* have a double flesh, so apparent, that it may be discerned; so great, that the greatest glutton cannot eat one at a meal, *Gonsal Oviedus.* Their testicles in venery increase wonderfully, but there appear none in Winter, *Aristotle*, *l.3. hist. c.21.* They are so salacious, that when the females are wanting, they will couple amongst themselves, and with their young ones: when they are present, they are filled by the males with wind they send forth, also by their cry and flying upward, *Plin. l.10. c.33. Aristot. l.5. c.5.* Their fruitful spirit is thought to perform that, which *Ephesius* interprets to be a vapour; which carries the heat arising from the generative seed of the male, and which being received through the pores of the Partridge, penetrates as far as the *menstruum* of her. Their young ones are impatient of delay, and break forth of themselves before the eggs be opened; and making a passage in the Eggs, so soon as they can put forth their heads and feet, they run away with the shell on their backs, and seek for food. *Odoricus de foro Julii*, shews us their docilenesse, and saith, *That in the Countries about* Trapezunda, *which was formerly call'd* Pontus, *he saw a man that drove* 4000 *Partridges and more: he travelled by Land, and they flew in the Ayr, he brought them to a certain Castle call'd* Thanega, *that is* 3. *dayes Journey from* Trapezunda. *These Partridges when the man rested, would all rest about him, as Chickens about a Hen; and then he took of them as many as he pleased, and the rest he brought home again.*

CHAP.

CHAP. XXXII.

Of the Ostrich.

THe *Ostrich*, hath a small head like a Goose, not covered with feathers, with cloven feet, *Aristot. 4. hist.* He is too big to fly, yet sometimes he runs swiftly, the wind entring under his wings, and extending them like sails. It is certain he will out-run a man on horseback. He is a fruit-eater. He will swallow small pieces of bones and stones greedily, but he casts them out again; also pieces of Iron. How should he digest them, for a Lion that is hotter cannot? He makes a nest of sand, that is low and hollow, and fenceth it against the rain. She layes above 80 eggs; yet the young ones are not all hatcht at the same time; The eggs are very great, as big as a young Childs head, weighing about 15 pounds, they are extream hard, and the shell is like stone. The young are bred of them by heat of the Sun; some, because they saw this Bird looking on them, thought the young ones to be hatcht by her eye: She is wonderfull simple; when she hides her neck in a bush, she thinks she is all hid.

CHAP. XXXIII.

Of the Scythian *Bird, and the* Castrel.

OF the *Scythian Bird*, *Aristotle* writes thus: There is (saith he) a Bird that inhabites the *Scythian* Land, as great as a Bustard, which produceth two young ones; and the eggs she layes, she does not sit upon them, but leaves them wrapt up in a Hare's or Fox's skin, and so layes them up on a high Tree. When she hunts not, she stayes and keeps and defends them.

A *Castrell* is most loving to Pigeons; wherefore Countrey men put the young *Castrels* in Earthen pots, and fence them with putting on the Cover, and fastning them with Gip, they place them in some corners of their Dove-coats; this makes Pigeons love the place. He so frights Hawks, that they fly from the sight and cry of him, *Columel.*

CHAP. XXXIV.

Of the Thrush, *and* Torquilla.

THrushes were amongst the *Romans* formerly great dainties; for at *Rome* they were sold for 3 *denarii*; that is, 12 pieces of money apiece. *Varro*, a very copious Authour, saith; *That out of one Cage* 5000 *Thrushes*

Thrushes were sold at the said price; saith he, *In a Farm of my Aunts, in* Sabini 24 *miles from* Rome, *there is a house for to keep Birds, out of which alone I have known* 5000 *Thrushes sold for* 3. denarii *apiece, that that part of the Farm yielded one year* 6000 Sestertia, *twice as much, saith he, (speaking to* Axius*) as thy ground of* 200 *Acres yields really.* The Thrush of *Agrippina* shews they will learn; for this would imitate all mens speeches. It is a wonder, if it be true, that *Thrushes* should be so deaf. *Scaliger* hath a delicate Copy of Verses of the singing *Thrush.* We will here set them down:

Sweet little Thrush, *little Throat,*
Abating cares with thy small note;
With thy melody be so kind,
To pacifie my troubled mind.
And let thy warmbling breast
With thousand tunes at least
Free me from gulphs of cares,
O Prince of happy Ayres.
Little Bird, King of voyce,
That makes thy Lord for to rejoyce
When he awakes, with thy clear note,
Sweet little Thrush, *little Throat.*

CHAP. XXXV.

Of Urogallus.

U*Rogallus* is found in the highest Mountain tops; in *Germany*, and the Northern parts, he most delights. *Encelius l.*3. *de lapid. c.*54. writes of his wonderfull copulation. For the Cock of this kind doth spit and vomit out his seed in the Spring when they couple, and with a loud noise calls the hens, who gather up the seed was cast forth of his mouth; and they swallow it down, and so they conceive. Then the Cock treads them, and ratifies as it were the seed eaten. Those hens that he treads not, do bring eggs that are windy. *Olaus Magnus* writes, that in the Winter, in the North, the lesser *Urogalli* will lye hard under the Snow two or three moneths. But in *Ponna* they say in Winter some Birds are found, that neither boult their feathers, nor do they feel when their feathers are pluckt out, nor when they are thrust through with a spit, but onely then when they wax hot at the fire. It is hardly true. The greater *Grygallus* is so deaf, that he cannot hear the noise of a great Gun.

CHAP. XXXVI.

Of the Batt.

P*Lato* calls the *Bat*, a bird and no bird. *Valla*, half a Mouse. He loves Caves and holes in the earth. In the hollow places of *Apennimum*, there were some thousands that lodged. It brings forth the young ones ready formed; when they are bred, they are first like young Mice, smooth and naked as young children: She suckles her young ones with her milk, and she casts them especially between the hollow places in Tiles or roofs of houses. They stick so fast to her Teats, that they cannot be pull'd off when she is dead. She, the second day after she hath disburden'd her selfof them, flies to find food; but in the mean time she devours the secondines. Sometimes she is bred of putrid matter. *Frisius* saith, she proceeds from a slokly excretion of the Ayr; she flyes with leather wings; or, as *Isidore* saith, born up with the membranes of her arms, flying winding up and down, and not far from the earth. When she is weary she hangs by her claws, the rudiments whereof they have in the middle of their wings: she will fly also with two young ones in her bosome. They eat Gnats, Flies, Bacon. They will so eat a flitch that hangs by a beam, that they will lye in the hollow place. In hot Countries they will fly at mens faces. In *Darien* a Province of the New World, they troubled the *Spaniards* in the night: One of them fell upon a Cock and Hen, and bit the Cock dead. *Martyr. Pompilius Azalius* saith, That in the *East-Indies* some are so great, that they will strike men, passing by, down with their wings. The Argument of this, is their carcases that lie all over the Vale. The Storks eggs grow barren, if a *Bat* touch them, unlesse she take heed by laying Plane-tree leaves in her nest. It is killed by the smell and smoke of Ivy, *Ælian de animal.* Locusts will not flye over the place, where *Bats* are hang'd on the Trees that lie open. The biting of it is cured with Sea-water, or other hot water, or with hot ashes, as hot as one can suffer it. *Strabo* saith, That in *Borsippa* a City of *Babylon*, where they are greater than in other places, they are pickled up for food. So in St. *John's* Island they are skinned with hot water, and they are made like chickens with their feathers pull'd off with us; for their flesh is very white. The Inhabitants of the Isle of *Catigan* in the Sea *del Zur*, do eat them. They are as great as Eagles, and as good meat as Hens, *Scalig. Exerc.* 236. *f.* 3.

CHAP. XXXVII.

Of the Vulter.

THe *Vulter* hath filthy and terrible eyes, and a space under his throat as broad as ones hand, set about with hairs like Calfs hairs, *Bellonius l. 2. observ. c. 1.* He hunts after Cattell in *Chyla* a Province of the *West-Indies*, and that not from Sun-rising till Noon, but from Noon till Night, *Monard. de Arom.* Some say, that the males are not bred, but the females conceive by the wind; which is false: for they have been seen between *Worms* and *Augusta* of *Trevirs* to couple, and to lay eggs; *Alb. Mag.* They are so libidinous, that when they are kindled, if the male be absent, they will tread one the other, and conceive by a mutuall Imagination of lust; or else drawing dust by force of desire, they will lay eggs. When he wants his prey, he will draw blood from his thighs to feed on. *Simocatta* writes, that they are great with eggs 3. years. He hath an excellent sight, for he will see when the Sun riseth from East to West; and when the Sun sets from West to East. He will smell Carrion 500 miles, *Aldrovand.* *Avicenna* saith, That he sees the carcases from aloft; but *Aldrovandus* writes, That the wind carries the sent of them to him. He hath an exquisite sense to perceive. He lives a hundred years. If you pick your teeth with his quill, it will make your breath sowr. A kernel of a Pomegranate will kill him, *Plin. l. 30. c. 4. Ælian. l. 6. c. 46.*

The End of the Sixth Clasis.

AN

AN

APPENDIX

TO

The Sixth Clasis:

Wherein some things are taken out of a Treatise of Michael Maierus, *a most famous Physitian, concerning the Bird that growes on Trees.*

WHen one shall read, that there is a place in the World, where Geese grow on Trees like Apples; perchance he will be doubtfull concerning the truth of it, and question the Authour. And if any man shall say, that living Creatures are bred, not onely of one, but of divers kinds, from Trees and vegetables, that part will fly, and part will not fly; he will have enough to do to make good what he sayes, if he would not be accounted a Lyar. Yet I think, it may be easily proved by what we have said already, where we have asserted, from experience, that Gnats are bred in Okes, and mosse of Okes; and Worms are bred in other Trees and Vegetables; which, though they be small creatures, yet are they reckoned in the number of living creatures, because they feel and move: Yet I should not affirm the first as the words sound. For Birds make their nests sometimes in Trees, hedges, bryars and other vegetables; but that they grow there like pears, is incredible. There is one of the *Canary* Islands called *Ferro*, where is a Fountain of sweet water concealed (and there is none besides in the whole Island) in some Trees by a wonderfull Indulgence of Nature; the leaves do draw abundantly water out of the Earth or Ayr: which they drop down for the Inhabitants to drink. For should they want this boon, no men nor Cattell could live there; for there are no Fountains; but the Ocean or salt-water runs round about it. The great bounty of God hath afforded water to those, to whom it is denyed in other considerations. As in *Egypt* where there never falls any rain, *Nilus* overflowes to supply that defect; and other Countries have other gifts given them. So also is this bird afforded to the Isles of the *Orcades*, and other neighbouring places, which is found no where else. Yet should any man look to find him growing on the Trees, he might wander all the

Woods over and find none, nor yet, do Pyrats amongst the *Ferrenses* find water, but are forced to leave the Country for want of it, nor can they find it in the Trees. Concerning this bird that is no Fable, that very learned Authors have written, making mention of it also in their other works, as *Hieron. Card. de varietat. rer. c. 36. Du Bartas, in his weeks, the 6th day, and 1 day of his 2 week.* But they all do not agree of the places and manner of its generation. *Munster* saith, the *Orcades* are full of these birds, *Gyraldus* speaks of *Ireland*, *Dubartus* of *Scotland* which he calls *Laturnen*, as also *Mela* writes. *Hector Boetius, relates the same things of the Hebrides. A French man understands it, concerning any part of the Hesperian Sea. He saith, a certaine bird is bred without Cock or Hen, but only from some vegetable, namely in* Scotland *from the Trees of that Country. Also ships made of the same Trees, when they were in the middle of the Sea, produce the same fowls. The* French *call them Marquerolle; it is good to eat.* Plutarch *makes mention of the same bird, in a Treatise that begins, whether an Egge were first or a Hen? The* Scotch *call them Klekgues,* Others write of them thus: In the *Orcades Island*, and *Scotland*, there is a Tree by the Sea side, and on the banks of Rivers, that beares fruit not unlike to Ducks, and when it is ripe it falls down into the water, and swims away alive, and becomes a bird; if it fall on the the ground it corrupts. Others call them *Barnacles*. As also in the little Theatre of the World, they are ascribed to *Ireland*, and erasmus deciphered. There are also here Birds called *Barnacles* growing by nature contrary to Natures order, not unlike to Ducks, but only they are lesse. For from wood of Masts for Ships, first comes forth some kind of Gum, then with weed (or Sea grass calld'd Wicr) some shell-fish sticks to those kinds of wood together with the pitch, which in time get wings and become Birds, and fly or fall into the waters, and swim. I have often seen (saith *Silvester*) abundance of these Tree-Ducks hanging on the Wood, inclosed in shells till they could fly. They lay no eggs as other Birds do, nor are they bred of eggs. In some places they eate these Birds for Fish, and not for Flesh. *Hector Boetius* tells the same History of a Bird, he calls *Clakis*. For, saith he, if you cast Wood into the Sea, about the *Hebrides*, in time Worms will breed in it, that eate that Wood hollow, and afterwards become Birds, and are like to Geese, flying. Hee ascribes the generation of them to the Sea, called by *Homer* and *Virgil*, the Father of all things. But these different descriptions of Authors do neither agree amongst themselves, nor in all things with the truth it selfe. For the place, some say it is the *Orchades*; others *Ireland*; others the *Hebrides*, others *Scotland*, and all this may be true, since in the Ocean between *Scotland* and the *Orcades*, and *Ireland*, and the *Hebrides*, they are said to breed in both places. For it is no small extent of place where they are, but all that compasse of the Sea in the outmost bounds of *Scotland* and *Ireland*. For the name, there is no difference; for divers Nations use divers names. But whether that faculty be to be ascribed to the Woods or Trees of those Countries, or to Worms that breed from those Trees, and are changed into Shell-Fish, is worth Enquiry, since the fore-

forementioned Authours were of so various opinions. But we shall consent with none of them. For were this vertue in the Wood, why should not the same kind of Wood, used for Masts, have the same faculty in all places; yet that is not so, nor do Ships made of that Wood produce such fowle in the middle of the Sea. For who ever heard any such thing done in *France*, *Germany*, or *England*; yet are all their Havens frequented by *Scotch* Merchants, and Ships from the *Orcades*. Nor can this be referred to the Trees, for they beare not birds but fruit of their own kind. If they be cut down and turn'd to other uses, and cast into the Sea, to corrupt and grow rotten; that is, that they may dye as it were, as to their first being, and be turned into the common matter of Wood; then begins this new generation of living Creatures by the influence of the Heavens, and the Suns heat co operating. For how should a vegetable, produce a flying Creature like a Goose? Is not every Tree known by its specifical fruit, whether it be good or bad? Againe doth not every kind of fruit, testify what Tree it was bred on? Trees do not beare fish; nor the Sea, Trees. Hares use to be found in Woods; and merry conceits in words, and not the contrary. A vegetable doth not couple with an animal, nor an animal with a vegetable; each keeps its own rank; and doth not exceed it, unlesse Nature using the help of putrefaction, do produce some small living Creatures in vegetables; as I said before. They that think that Worms may become fowls, do not in my Judgment, speak what is probable. For how should a shell-fish come of a Worm; yet understand me so, that what I deny of each by themselves, I would grant of all together. But because I know this not by heare-say, but I have seen above 50, (almost hundreds) of these shell-fish, and when they were opened, I have seen little young Birds coming forth as out of an egge, with all their parts necessary for flight; and I have had them in my hands, I must not omit here to set down an exact description of them; and this it is. If perhaps some pieces of Masts of Ships smeer'd with pitch fall into those Seas in the outmost parts of *Scotland*, not far from the *Orcades* or *Hebrides*, and lye there a long time; they not only grow rotten and full of Worms, but are covered all over with Sea weeds, for of such grass there is abundance there; which cleaves to any Wood easily, especially if it send forth a pitchy fatness as Masts that are fitre or pitch Trees, and are full of pitchy Rosin; and then for Ships occasions are again besmeerd with the same; partly that the sayls may suddenly be hoised up and pulled down, and partly no where. Now the Sea breeds those weeds at the bottom neere the shore, that are longer or shorter, and these at certain times swim on the top of the water; being moved or pull'd up, as it were, by the waves. This, bred in the water, doth not easily corrupt, having much of a salt nature in it: wherefore in North *Holland*, and many other places they make of those weeds a strong fence against the violence of the Sea; so that they fetch a remedy from the disease; wherefore these weeds hanging round about the said pieces of Masts insinuate themselves into the rotten places, and in time on the other side

of

of each grass will grow small shell-fish, which are whitish or of the colour of a Mans nayls, and in formc, hollownesse, and long fashion, like to the nayle of a mans little finger; whereof if two be joyned together that they may stick well, the upper parts being the sharpest, they take hold of the ends of the weeds, and are fast shut in the broader parts, which afterwards open, that the fruit may come out to flye. Thus a thousand at least of these shell fish are fastned to the weeds at the ends, which as I said are fastned to the pitche Wood, with the other end, in such plenty, that the Wood can hardly be seen: yet those weeds do hardly exceed 12 fingers breadth in length, and are so strong as thongs of leather: sometimes they are longer, and are some-feet-long. This is the whole external description; For you can see nothing but a piece of a Mast full of rotten holes, and Sea Weeds thrust into them, having at the other end shell-fish, like to the nayle of a Mans little finger. But if these shells be opened, those small Birds appeare, like chickens in eggs, with a beck, eys, feet, wings, down of their feathers beginning, and all the other parts of callow Birds. As the young Birds grow, so do the shells or covers of them, as they do in all other Oysters, Muscles, shell-fish, snails, and the like carriers of their houses. It may be asked how they get their food? I answer as other *Zoophyta* do; partly from the sweeter part of the water, or else as shell fish that breed pearls, and Oysters do; from the dew, and rayn; partly, from the pitchy fat of the rotten Wood, or the resinous substance of Pitch or Rosin. For these by the intermediant grass, as by umbilical Veins, do yeeld nutriment to these Creatures, so long as that Wood is carried by the ebbing and flowing of the Sea, hither and thither. For were it on the dry land, it would never bring forth the said shell fish. An example of this, we have in places neere the Sea, where those shell fish are taken alwaies with black shells, sticking to Wood put into the water, as also to the woodden foundations of bridges, and to Ships that have been sunk. And they stick either to the wood, by some threds like to hayrs, or Mosse, or else by Sea Weeds; whence it is evident that some clammy moysture is afforded to shell-fish sticking to any Wood whatsoever, though it be Oke, but much more to firre Wood, full of Rosin, whereof Masts of Ships are made. For this Wood is hotter than Oke, and hath much aeriall clamminesse, and therefore takes fire suddenly and when it is wounded, while it is green, it sends forth an oily Rosin; but when it is dry, it will easily corrupt under water; but the Oke will not, because it is of a cold and dry nature. It longer resists corruption, and under water grows almost as hard as a stone.

If any man will consider the abundance and diversity of fish and living Creaturs which are bred in the Seas every where, he cannot but confesse that the Element of water is wonderful fertill, which breeds, not only the greatest living Creatures, (as Whales, whereof some, as *Pliny* writes, *l.* 32. entred into a River of *Arabia*, that were 60 foot long, and 300 foot broad) and that in such abundance and variety that the same Authour reckons up 176. kinds of fish in the Sea only, besides

besides those bred in Rivers. But one would chiefly admire the great diversity and beauty of Sea shell-fish, for I remember that I saw at *Rotterdam*, Anno 1611, with *Peter Carpenter*, a very famous man, above a thousand severall kinds of them, in such plenty, that he had a whole Chamber full of them, which he kept as the precious treasures and miracles of nature. No doubt but these are the Ensigns of Natures bounty, for they rather serve for the ornament of the world, than for mans use, wherein you may see a kind of an affected curiosity in the variety of the forms of them. Hence we may conclude the great fruitfulnesse of the Sea, which doth exceed the Land in breeding of living Creatures, and vegetable animals; which the Antients observing, they ascribed to Neptune, who was god of the Sea, great multitudes of Children begotten from divers Concubines, call'd Sea-Nymphes; amongst these, were *Triton* and *Proteus*; whereof he, sounding a shell fish, is his Father Neptunes Trumpeter; but this is changed into various forms, as into fire, a Serpent, and such like; clearly teaching, that the Sea breeds divers forms.

These causes seemed to move them who ascrib'd the generation of these Birds in the *Orcades* to the Sea alone, as being the Authour of fruitfulnesse, and of diversity of Creatures. But how rightly they did that, shall be seen. We deny not, but that many pretty shell fishes are bred of the Sea, onely from the influence of omnipotent nature; so that the Ocean affords the place and matter of them, but not the form and the cause efficient. All the fish, except a few, are bred of the seed of other fish, naturally; and here can be no question of these. Yet we may doubt whether so many kinds of shell-fish do breed from the seed of other shell-fish. It is manifest of the foresaid Bird, that it breeds neither from an egge, as other birds do, nor yet from seed. Whence then? From the Ocean? or must the cause be imputed to the Ocean? Not at all. For though the place be said to generate the thing placed, yet that is understood of the matrices that are the cause of generation, *sine quâ non*; but not the efficient cause, much lesse the formal material and final, and not concerning every generall thing containing. But to search out more exactly the nature of this wonderfull Bird, we will run over those four kinds of causes, not doubting, but having searched out these as we ought, what, why, and from whence it is, will easily be resolved. The Efficiens cause therefore of this generation, is external heat, such as the Sun sends forth into sublunary bodies; as also in the internal heat in the matter corrupting. For without heat nature produceth no generation, but useth heat as her chief Instrument, whereby homogeneous things are congregated, and heterogeneous are parted; the parts and bowels are formed in living Creatures, and are disposed in their orders and figures. In Artificiall things that men make, they use divers Instruments, as their Hands, which may be call'd the Instrument of Instruments, Hammers, Anvils, Files, Sawes, Wimbles, and the like. In natural things, there is onely Heat as the efficient cause; and Nature moves it as the Artificer doth them. The outward

ward heat brings the internal into Action; Without which, this would be unefectual, and shut up in the matter as dead; as it appears in some living creatures, which when Winter comes, and the outward heat fails, they are as it were asleep, and lye as dead, as Swallows, Frogs, Flies, and such like: But so soon as the Sun beams heat the water and the earth, presently these little Creatures revive; as owing their lives to the Suns heat. And as the heat is greater, so is the efficacy thereof, and their flying about and crying; as we see in Flies and Frogs. As for heat, the Sun, the great light of the World, is the Father of it; which it sends upon all earthly creatures, enlightning and enlivening them. Hence men say, that the Sun and Man beget a man; namely, by the intermediate seed. Otherwise it proceeds of another fashion, when without those mediums, in things are bred of putrefaction, as we said before. For when the solar or elemental heat incloseth any mixt body, wherein natural heat is included; this is raised up by that, is moved and stirred to perform its operations; as appears in the hatching of eggs by artificiall heat of Furnaces, or natural heat of the hens. For in the yolks there is a hidden naturall heat, that is stirred by the external heat; so that, by circulation of the Elements, Water is turn'd to Ayr; Ayr into Fire; Fire into Earth; Earth into Water, and the Chickens limbs and entrals are formed and made by natural heat, which is the principal internal Agent: The Material cause in the generation of this Tree-Goose, is that clammy matter of the wood of Firre, or the Rosin and Pitchy substance of it, upon which the outward Suns heat doth work; and the internal heat increased in the corrupt matter. This matter though it be small, yet may well afford the first rudiments to this *Embryo*, which is afterwards nourished by the clammy substance of the Ocean, as Oysters and other shell-fish grow and increase; for neither the hard substance of the wood, nor yet the weeds affords any matter for it; for the one is observed to be the container, and the other the conveyer of the true matter. For as in the generation of Man, neither the Matrix, nor the umbilical vein do afford any matter, but are required as necessary instruments; so must we judge here, of the wood, and the Sea-weeds. Some will have it, that from the worm bred in the rotten wood, there should be made some transmutation, and that the worm doth afford the first matter for this generation; yet that opinion is false, for that Worm cannot come forth to the end of the weeds, nor can it make shell-fish, but that must breed at the end of the weeds; nor doth it come thither from any other place, that it can go from place to place by an animall motion, before it receive its essential form. *Pliny* writes, that the Fish *Pinnother* is so cunning, that he will hide himself in the Oyster; and as he growes, he will go into such as are greater; but to imagine any such thing of that Worm that eats into the wood, is against the nature of it. But it is no doubt, but that the rosinous and pitchy matter may communicate something to the end of the weeds, which yet nature must do by a way we cannot perceive; as nature useth in

in all other generations such wayes and means that we can better think and judge of by reason, than see with our eyes. For who can see how the heart in the generation of living Creatures is first formed? What fibres and veins nature useth there for her Instruments; how and by what means this is done; and when it is done, how she disposeth of the other bowels, and makes them of a seminall and menstruall matter: There was never man yet found so quick-sighted, that he could see these things whilest they were doing; but when they are done, reason can discern them. So no man could yet say, how this matter, that was first radical moysture in the wood, could passe to the ends of those Sea weeds, and should be formed there; yet it is plain afterwards, that so it was made. Nor will that be so hard, for the matter to passe through the grasse to the end of them, as to passe without any medium.

But the greater difficulty is, and most worthy to know, the Formal or seminall cause of this wonderfull birth; which since it is not contain'd in seeds; for here are none to be found; it must needs enter into the matter, otherwise than in other kinds of generations. For the seeds of both Sexes in living Creatures which are mixt together in copulation, are as it were the sheaths and cases of the forming spermaticall faculty; which forms the præ-existent matter of the seed or blood into an essentiall form fit for that kind; that the seeds belong unto, howsoever they are mingled or drawn forth into act. That force of nature is a blessing given to her in the creation, in the word *increase*; which word was never idle, nor shall be whilest the world endures: God spake; and all that God said were made very good; containing in themselves principles to multiply their own kinds by; because individualls must perish. The Heaven with its Stars shall last from the beginning to the end, and the entire Elements, Ayr, Water, and Earth. But things compounded of them, as they dy; so they are restored again by multiplication of seed, not the same in number, but in kind; not by external form, but by that form which is internall and essential. But since that God gave this Commission for propagation to the sublunary World, and this alwaies proceeds by mediums; though in the production of these *Barnacles* there are no visible seeds, whereby the matter may receive its form; wherefore it is consonant to Reason and to Nature, that the form must come from some other place into the matter; lest any thing should seem since the Creation to be made of nothing, contrary to Gods will. For nothing is the cause of itself, or forms it self; but only the eternal and infinite God. All other things indeed were made by him of nothing, but not by themselves; nor are they propagated of nothing; nor from themselves; but from means appointed by Nature. *Plato* sets universal *Ideas* of every species of things subject to generation; fixed in a certain place from whence a formative force descends, to beget and make all individualls to be made. This opinion is pleasant but not true. For there can be no universal substances (save in the conceptions of Mens minds) but only individuals; that cannot give what

what they have not, and what they do give, they cannot alwaies hold themselves. Nature is in all things as in individuals, dispersed all over, which yet operates in each individual, according to the condition that every one of them requires, which is true in all things that have seeds, for those are the very subjects and vessells that nature works upon. But the question now is, how that faculty is imprinted on the seeds, and from whence? whether from nature? If this be true, then of every matter she makes what she will, when as she can imprint what forme she please on any matter. And then, how can nature in this *Barnacle*, that hath no seed visible presupposed, proceed to generation; and in other such like things bred of meer putrefaction? As in man there is an imagination and cogitative force, which is performed by a subtile Artifice of Images conceived in the brain, arising first from the outward senses, and so proceeding to the inward parts of the brain, by a locall motion; yet without any changing of the place, only by calling to remembrance things at the greatest distance, which were seen long before, or were done, or thought of. So in the Sun, the Heavens, the fixed Starrs, there is a kind of imaginative vertue; not passive as in animals, but purely active, which by locall motion comes thence into sublunary bodies, and is communicated to certaine subjects, as to seeds of individualls. And this is the form that first begins and increaseth all generation, communicating the essence to every thing, that it shall be such a thing, and not another. This force is the first moveable, frameing its subject, as our Architect, and one that frames her self a house, where to dwell, it that she governs to that end that Nature, the artificer assigns it. That is the spermatick faculty, that resides in the body of the seed; without which this is barren and vain, not doth promote any generation: If this by time vanish, or by breaking the Container of it; there follows no fructification, as appeares in Corn, which if it grow old, or be ground to meale, it can propagate no more. Or why doth this power reside in that body rather than in another, and perisheth presently afterwards? I answer, there is no other reason to be given, than that Nature rejoyceth in such means, and hath included that vertue that it cannot flye away, if it be obedient unto nature, which if it thus would, she could have put into other subjects. It is admirable, that the animal spirits in men are contained in the nerves, nor do they flye out of them into the Ayre; and when those nerves are pressed their passage is stopped, whence astonishment or a palsey for a time seaseth on the foot or arme; which is by and by removed by the Spirits succeeding into the nerves. After the same manner, that imaginative vertue of the heavenly bodies; especially of the Sun, it is passe into the individual subjects or seeds of things, it naturally remaines in them at the will and pleasure of nature. But where there are no seeds, there the same vertue of the Heavens is communicated to some certaine matter immediately; as, in this generation, to this fat and clammy subject, of which we spake before, as to an immediate cause. For there are two things in all seeds, the Elementary matter

ter, and the celestiall forme; the latter whereof may perish, the matter and externall forme remaining entire; but nothing of that was generated out of the matter, when the celestial forme is lost. Matter in this generation is in time before the forme, and receives it by influence, though it be not deprived of any forme it had. I speak of the first matter, but the subsequent forme; if it do not take away the first forme; yet it perfects it. But it is a question, Wherefore this formal force (as for example, in making a bird) is not sent into every matter, or into any whatsomever, when as it is received without certaine vessells, or bodies of seeds? I answer; that matter, so prepared in such wood and not in another, and in such a place and not in another, supplies the place of a seminal body; whose qualities not being in another, therefore noe other subject is capable of that formal and determinate vertue. There are examples every where of this Imagination, or celestiall Influence, namely in some places of the County of *Mansfield*, where Mines of Brasse in a stone that may be cut, do shew forth all kinds of Fishes; and the forms of such as are in the next Lake, as we may see Teeth; Horns; and Lyons to perfection, formed by nature under ground in hollow Caves and other places. In Amber also, which by the Sea Waves is cast on the shores of the Island, now call'd *Sudovia* in *Borussa*, divers forms of flyes gnats, spiders, butterflies, frogs, lizards, and other Creatures appear; not really, but only from the imaginative faculty of the Heavens imprinted in it. For if you should cut the Amber or break it to find them, the places would be empty; which nature hath so sported her selfe upon; yet are all their parts and particles so shadowed to the life, that a man would sweare, that such Creatures are really included in that matter, perchance wrapt in when the gum was moyst. But it is no such matter: for there is no earthly matter, and which is not transparent, that is contain'd in those concave figures; which yet ought to be otherwise, since a corporal substance cannot vanish away; and only the forme of it remaine. Moreover if any such living Creatures had fallen into the gummy substance of it; as into Rosin or Turpentine, their wings or feet that are besmeer'd would be seen so; and not extended entire, and direct, which is not so here; but all seem entire as through a Crystall glasse. Farther, if that should fall from Trees into the water, those Trees would be known. *Pliny l. 37. c. 2. & 3, writes of Amber thus*, Pitheus (saith he) *discovered to the Guttones, borderers on Germany, an arme of the Sea called* Mentonomon, *for the space of 6000 furlongs; from this the Island* Abulus *is a days sailing; from thence Amber is carried by the waves of the Sea; and it is the purging of the Sea congealed. The inhabitants use it for wood to burn, and sell it to the* Germanes *their neighbours.* Timæus *beleived this, but he called the Island* Baltia. *Mithridates saith, there is an Island in the shores of* Germany, *and it is called* Osericta *that is full of a kind of Cedar Trees, from thence it runs to the Rocks. But certaine it is, that it breeds in some Islands of the North Sea; and the Germans call it Glessum; and therefore our Country men call one of*

those Islands, Glessaria; *when* Germanicus Cæsar *was there with his Navy*, *the* Barbarians *called it* Austravia. *It is brought by the Germans, especially into the Country of* Pannonia: *Thence the* Venetians *first, whom the* Greeks *call* Heneti, *spread the fame of it, they receiving that from* Pannonia *about the* Adriatick *Sea. That shore of Germany is about* 600 *miles from* Carnuntum *of* Panonia, *from whence it is brought, being but lately discovered. A* Roman *Knight, sent by* Julian *to trafique for this, who took care of the fencing sports of* Nero Cæsar, *passed over all those shores, where these Merchandises were, and saw such abundance brought in, that the nets that were set to keep off wild beasts from the Galleries, were full of knots of Amber, but the weapons, and biers, and the whole provision for one day was made of Amber. He brought a great weight or clot of it, that weighed* 13 *pounds. Pliny.* In Amber, as it is transparent, that incorporeal figure doth easily appeare; but not so in other dark bodies. Nor yet in the matter of the wood we speak of; In which not only the figure of a bird, but also a spermatick natural force to forme it, nourish, and augment it, and to preserve it in its vital functions, is implanted, as in other birds. But since it is not propagated, *ex traduce*, from an egg or seed, it neither leaves egg nor seed, nor gives more to another than nature gave to it. For if it lay'd eggs, that chickens might proceed from, the Barnacle had been so bred her self; but neither of these is so. For as a Mule is not bred of a Mule, but from the mingling of an Asse and Mare together, so it doth not generate a Mule, but continues alwaies Barren, as this bird doth. Bees are bred of Worms, the Worms in the honey combs from honey, by a wonderfull operation of nature, though without any sensible body of seed, yet not without virtuall seed imprinted on the Honey Combs by the Bees, which they first had from Heaven.

Nor is it possible, that these effectual and spiritual qualities should proceed from the pure Elements, or onely by propagation; since the matter of the seed, which is made of nutriment and blood, could be extended in *infinitum* without diminution of it self. For we observe, that the Elements are but like dead and materiall receptacles of the formal vertues, and that the matter of the seed is dayly supplyed, and heaped up by the Elements. And therefore it is necessary that the formative force, should daily flow into the formed seeds; or, where they are wanting, into a matter prepared by Nature from corruption, or other operations. *From whence the form of this wonderfull Creature is easily drawn, namely, that it is an imaginative vertue of the Heavens, or of the Sun, actively infused into a viscous matter of that wood in those places, so disposed by corruption, that it may enliven it, and promote it to be a new kind of living plant, or bird included in a shell; which so soon as it falls into the waters may swim, and when the wings are grown, fly about.* The final cause is the common ornament of the World, the variety and wonderfull works of Nature, the profit of those that dwell near, and especially the providence, omnipotence, and clemency of our good and great God; all whose attributes do appear to mankind as well

well from this creature, as from the rest, whilst he crowns the year with his free gifts, and the whole earth with variety of Creatures. So that he is far more mighty in creating and making different kinds of living Creatures, than we are able to expresse them, to nominate or to know them. Let it suffice us, that we have seen some part of the wonderfull works of God, and taken a view of them; for it is not possible for a mortall Man to be capable to apprehend them all; yet to consider of none of them, were brutish; and we should, so, be more like unto Beasts than Men.

OF

OF
Naturall VVonders.

The Seventh Clasis.

Wherein are set down the Wonders of Four-footed Creatures.

Seneca l. 3. de ira. c. 30.

WE are troubled with frivolous and vain matters. A red colour makes a Bull angry, and a viper is stirred by a shadow. A picture will make Bears and Lions fiercer. All things that are cruell and ravening by nature are moved with vain things. The same things happen to unquiet and foolish spirits; they are stricken with jealousie and suspition of things.

CHAP. I.

Of the Elk, *and the* Ram.

THe *Elk* is a four-footed beast commonly found in *Scandinavia*; in Summer of an Ash-colour almost; in Winter it turns toward black. The horns are fit for footstools, each of them is 12 pound weight, and two foot long. His upper lip hangs out so long, that he cannot eat but going backwards. Men write, that he is subject to the falling sicknesse; and that the remedy he hath is to lift up the right claw of the hinder foot, and put it to his left Ear. It holds the same vertue, if you cut it off when he goes to rut in *August* or *September*. He is commended for his swiftnesse, for he will run as much ground in one day as a horse shall in three. He is very strong; for a strong blow with his foot will kill the hunter. The *Ram* for six Winter moneths sleeps on his left side; but after the vernal equinoctiall, he rests on his right. *Ælianus* hath discovered this

this, but the Butchers deny it. In *Camandu* a Country of *Tartary*, they are as big as Asses, their tails weigh 30 pound weight: One was seen in the Court of the King of the *Arabians*, whose tail weighed 40 pound, *Vartom*. *Cardanus* ascribes that to its cold temperament, when the rest of the bones will no more be extended. Least it should be choked with his own fat, he sends down the humour unto his tail.

CHAP. II.

Of the Asse.

IN the Kingdom of *Persia*, *Asses* are so esteemed, that one of them is sold for 30 pound of gold; amongst the Pigmies they are as big as our Rums, *Paul Venet*. In *Egypt* they ambie so swiftly, that one will go 40 miles a day without any hurt, *Scalig. Exerc.* 217. *f.* 1. She doth sparingly dip in her mouth when she drinks. She is afraid, saith *Cardanus*. For when she beholds the great shadow of her ears in the water, she is fearfull they will be wet. There are some found in *Africa* that do not drink: She staleth when she seeth another stale, or upon a dunghill. For Nature doth stirre them up being slothfull by the acrimony of the smell. *Cardan. l.* 10. *subtil.* Observation proves, that where an *Asse* hath cropt a vine branch, the vine will grow more fruitfull. The monument of this matter was seen at *Nauplia*, where an Asse of stone was set up in thankfull remembrance for posterity. *Vadimonius* writes, that there is a fruitfull Orchard, in the middle whereof she was buried, *Aldrovand. l.* 1. *de quadr. c.* 2. In *Hetruria* when they have eaten Hemlock they fall asleep, that they seem to be dead. The Countrey-men are deceived by it, for oft-times they rise up and fright them when they have pull'd off their skins almost, *Mathiol. in Dioscorid.* Sheep will run into the fold, if you pen them in an Asses stall. If one be stung by a Scorpion, if he sit upon an Asse with his face toward the tayl, the Asse will endure the pain; and not he. It is a sign of it, because she will dye farting, *Merula*. Asses milk is commended. *Poppæa*, the Wife of *Domitius Nero*, that conceived in all 500 times, did wash her body in a Bath of Asses milk, thinking to stretch her skin thereby, *Plin. l.* 15. *c.* 18. *Bambis* of *Crete*, being in a Consumption, recovered by feeding on Asses flesh. Moreover, there are some in *Scythia* whose horn contains *Syrian* Water, for it will pierce through Iron Vessels. Some in *India* have one horn in their forehead: Who drinks but of that, is preserved from a disease: but if any venomous matter be drank, it is cast forth. They are so strong, that they will kill a horse to travell with them. Also that was a wonderfull one, that was sent as a present with other gifts by the King of *Assyria*, to *Ferdinand* of *Wines*; for the hair was wonderfull, the body was full of streaks, of divers colours and equall lines, *Pontan. de Magnificent.*

CHAP.

CHAP. III.

Of the Boar, *and the* Archopitecus.

IN *Crete* there are no *Boars*. In a great part of the New World there are some that are lesse than ours. Their tails were so short, that the *Spaniards* thought they were cut off. The fore-feet are whole, the hinder feet cloven. In some parts of *Scandinavia* they are 12 foot long. *Scaliger* writes, that the petty King of *Salvimons*, had a huge one, which would at the sound of the horn go forth to hunt with his Lord and the dogs. *Archopitecus* is a creature in *America* that is wonderfull ill-favour'd. The Inhabitants call it *Haut*; He is as great as a Monky, his belly toucheth the ground, he hath a head and a face like a child; and when he is taken, he sighs like to a child. Three claws hang to his hinder feet, and four long ones to his fore-feet, like the great prickly bones of a Carp, and with these he creeps up upon Trees. His tail is 3. foot long. He was never found to eat mans flesh, whilest he is alive; and they think he lives upon nothing but leaves, which in their language they call *Amohut*. When he is tame, he will love a man, and run up upon his shoulders. *Thevet* left him in the open Ayr, yet was he never wet.

CHAP. IV.

Of the Ox.

IN one of the outermost Provinces of *Asia*, between the outmost Mountains of *India* and *Cathay*, *Oxen* are bred white and black, with a horses tail, but more full of hairs, and reaching down to their feet. The hairs of them are most fine, like feathers, and as dear, *Venet.* Brought into *Hispaniola* they will grow so much, that they are greater than Elephants, *Petr. Martyr in Decad.* In these parts where we write these things, *Guickardinus* testifieth that one of them weighed above 1600 weight: we saw one at *Leyden* that weighed 2970 pound But *Ptolomæus* 11, had the horn of one that held 27 gallons. When the Cows are great with young, men say they carry their young ones on their right side, though they be great with two. But they that drink of the River *Charadrus*, not farr from the City of the Patrenses, conceive for the most part only Males: the same will come to passe if in time of copulation you bind the left testicle of the male with a band; or let them couple when the North wind blows, *Pausan. in Achaicis*: and if the right, or when the South wind blows, the Cows will conceive a female. The Cows if they be more fruitfull in summer, are a Token of a rainy Winter. For a fruitfull Creature cannot abound with generative humour, unlesse it be moved by a celestiall influence, *Albert.* Somtimes they are very fierce. In the yeare 1551 in *Rhætia*, between

between *Duria* and *Velcuria*, some of them, brought into the fields from two Villages, fought so violently that 24, were killed before the combate could be ended. *Gesner de quadrup.* Somtimes they are puffed up with fullnesse, for the cure whereof they use a Charme, nameing the swelling, In the name of the Father, Son, and Holy-Ghost. Men say that *Pythagoras*, by whispering some words at *Tarentum*, tamed an Oxe, so that he forsook bean straw, and followed a Country Man, and lived to be very Old at *Tarentum*, eating out of mens hands, *Cælius.* The smok of Oxe-dung will preserve Bee-hives free from Flies, and Spiders. Bullocks blood powred into a wound, will stop the bleeding. Also the dry dung burnt, drunk three spoonfulls, will cure the dropsy.

CHAP. V.

Of the Buffe *and* Bonasus.

A *Buff* is a Creature greater than an Oxe with a bunch on his back, (two or three men may sit between his Horns) for it hath a very large forehead, and curled with haire that smels like Musk. The flesh of it is most fat in Summer, but it tasts of Garlick that it feeds on. It is wonderfull strong, for he will take up a Horse and his Rider. The blood of it is redder than purple, so hot that it will make Iron on the Hunters Speare turn every way, and in the greatest cold it will corrupt in two houres. In the *Scotch* woods, they so abhor the company of men, that they will not touch the shrubs that men have touched, after many days; and being taken by art, they will dye for grief, *Cambd. in Scotia. Gesner* makes the *Bonasus* to be a kind of Bugle, of whom men write that he dungs extream hot when the Hunter follows him; but that happens to living Creatures by running so fast. The intestines grow hot thereby, and heat raiseth winds, which being shut in, they break forth violently through a narrow place, chiefly if there fall out to be any pressing of the places by motion. Also the Cuttle fish gives an example, that feare will cause her to cast out her inky juyce. *Philip* King of *Macedon*, killed one with a Dart at the foot of Mount *Orbelus*, the Hornes were 16, handfulls, which were consecrated to *Hercules*.

CHAP. VI.

Of the Camel.

THe *Camel* hath a manifold belly, either because he hath a great body: or, because he eats Thorny and Woody substances, God hath provided for the concoction. Puddle water is sweet to him, nor will he drink River water, till he have troubled it with his foot. In

Africa

Africa when they have fasted 50, days, they will not eat at night; but when they have their burdens taken off, they will feed on leaves in the fields. *Leo Afric. L.* 3. He lives a hundred yeares, unlesse the Ayre agree not with him. *Plin.* They serve the Indians to travel with, if we credit *Philostratus*; nor is it beyond his force, to go a thousand furlongs in one day. But that kind of *Camel*, the *Africans* call *Ragnail*, will go a hundred miles a day for 8, days together, with a very little meat. They never couple with their dams. When as his keeper had admitted him to the dam vailed; when she was discovered, he was so inraged, that she trampled on him, and threw her selfe headlong. *Arist. in admirand.* Examples shew that they are very docile: when they are longer on their journey than ordinary between *Æthiopia* and *Barbary*, they do not whip them forward, but they sing to them, whereby they will run so fast that men can hardly follow them. One at *Alcair* danced at the sound of a Taber, being taught by a strange art. For when he is young, he is brought into a stove, the pavement being very hot. One plays on a Tabret at the dore, he because of the heat lifts up one foot: they continue this exercise, and use him to it a whole yeare, that coming in publick remembring the hot pavement, when one plays on the Tabret he will lift up his feet, and seem to dance *Leo. Afric.*

In the Land of *Gyants* there is a Creature that hath a head, eares, and neck like to a Mule, a body like a *Camel*, a taile like a Horse, he is 6, foot high, and five foot long, his neck is as white as a Swan. There was one brought to *Middleburg* in *Zeland*, *Anno.* 1558. It was called an *Indian* Sheep. *Scalig. in exerc*, calls it *Allo-Camelus.*

CHAP. VII.

Of the Shee-Goat.

THe report is that *Goats* see as well by night as by day, wherefore if those that are blind in the night, eat a *Goats* Liver they will be cured. They breathe out of their eares and nostrils, if we will credit the Shepherds. *Philes* gives the reason, because when their nostrills are stopt, they are not hurt, *Ælian.* When the Sun sets, they lye backwards in the fields, and so they do at other times, but one with another. A *Goats* horn laid under a sick mans head, will bring him to rest; scraped with honey, it stops the belly flux; burnt, it will raise people in a Lethargy. In *Ægypt* they are said to bring 5, young ones. The cause is the water of *Nilus* that is drank by such as are Barren and want milk. They shew the revolution of *Syrius.* For as often as he riseth with the Sun, they turn to the East and gaze upon it, *Plutarch.* In some part of *Africa*, they sheer them, and make Cabels of their haire. Those of *Lybia* shew when rayn comes, for so soon as they come forth of their stalls, they run to feed, and presently come back to

to their stalls again, *Ælian.* Those of *Gimania* do not drink in six moneths; but, turning toward the Sea, they receive the vapours with open mouth, and so they quench their thirst. The Goat of *Mambrey* will endure a saddle and bridle, and a rider; he hath eares, that hang down to the ground, and horns twisted below his mouth, *Gesner. lib. de quadrup.* The wild ones in *Lybia* are as great as Oxen; so active, that they will leap upon the highest Mountain tops; and their limbs are so hard, that if they fall, they neither break their horns, nor hurt their heads, *Ælian. l.* 14. *c.* 16.

CHAP. VIII.

Of the Beaver *and* Colus.

THe *Beaver* is a most strong Creature to bite, he will never let go his teeth that meet, before he makes the bones crack, *Plin.* His hinder feet are like a Gooses, and his fore-feet like an Apes. His fat tail is covered with a scaly skin, and he useth it for a rudder when he pursues fish. He comes forth of his holes in the night; and biting off boughs of Trees about the Rivers, he makes his houses with an upper loft, and when the water riseth, he lies there, *Albert.* When they are cut asunder, they are very delightsome to see; for one sites on his back, and hath the boughs between his leggs, he holds them fast that they may not fall down, and the others draw him by the tail to their Cottage. *Colus* is a four-footed wild Beast, amongst the *Scythians* and *Sarmatians*, he is for greatnesse between a Stag and a Ram. He is white, and very swift. He drawes his drink by his nostrils into his head, and holds it for some dayes; so that he will feed well enough in Pastures where there is no water, *Strabo l.* 7. Sometimes they will be 500 together; but about Easter you may see 2000. In *March* they dig up an herb, by the sent whereof they stirre up venery; when that is spent, for a day they lie as half dead, but when they taste of it once more, they are restored, *Gesn.*

CHAP. IX.

Of the Cat *and* Coney.

THe *Cats* eyes are so good, that she will see any thing in the dark, *Albert.* The *Cat* by the *Egyptian* Sea is observed to change the pupils of his eye, as the Sun doth alter. They are long in the morning, round at noon; when the Sun sets they are obscured, *Gellius.* He commonly playes on his back, that he may look round about. Cut off his eares, he will stay at home more, for he cannot endure the drops that fall into his eares. If a *Cats* hair fall into a mans mouth, it will stick there. Hence matter is heaped together, that causes a Scrofu-

lous

lous diseases. *Scaliger* saith, *That in the Province of* Malabar, *there are wild-Cats dwelling in Trees, they leap as though they flew, having no wings. They have a membrane stretched out from their fore-feet to their hinder-feet, when they rest they contract it up to their belly; when they begin to fly, by moving their feet and thighes, they are carried and born up by stretching out and gathering in this membrane, and it is wonderfull to see them run as if they ran in the Ayr.*

Conies are abundant in the *Baleares*, where they do the Corn and the fields great harm, *Solin.* They breed every moneth, nor are their young ones blind. They presently take Buck again, so soon as they have bred, though the young ones do suck, *Plin. l.* 10. The female hath not milk presently so soon as she hath brought forth, before she hath been six hours with the Buck, and they have eaten some Oats, *Gesner de quadrup.*

CHAP. X.

Of the Stag.

IT is certain, that there are white *Stags*, and *Does* that have horns. *Apollonius* saw them as he passed beyond *Paraca* a City of the *Indies*, *Philostrat. l.* 3. *Sertorius* led one about, which he feigned to have received from *Diana*, that he took counsel with, that so he might keep his Souldiers in obedience, *Gellius.* *Lewis* King of *France* took one, and when *Anna* of *Britanny* asked what that was, he said, That they were all such at first, and that God took them from them for their pride. Their blood hath no fibres, as other creatures have, and therefore it will never grow thick. The Gall is not upon the Liver, but upon the Intestines, or in the Tail. Hence it is so bitter, that dogs will not eat it, *Plin.* In their heads they have live Worms, sometimes 20, and they are parted, so great as Maggots in flesh. They are said to breed under the hollow of their tongue, near the *Vertebra*, where the head joyns to the neck. If you pierce the scull bone in such as are of years, under the eye, you shall see Wasps fly out, bred of the superfluous humour, if you will credit Hunters; and then he can live no longer unlesse he eat a Serpent to renew himself. *Gesner* writes, That in the basis of the heart between the lap of the greater ventricle, and the urinal vein, there is a bone found. He addes, That it is reddish from the heart blood, and melancholick; some addes that from a dry vapour it is turned into a bony substance. Some adde further, that it is found at no other time, than between the two Feasts of the blessed Virgin, that is, from the middle of August to the Ides of September. The Doe breeds near the pathways, for she thinks that she is safe from wild beasts, by reason of men passing up and down. So soon as she is delivered, she first eats the cleanling, hence it is, that the herb *Seseli* is her medicament in bringing forth, *Aristot. in hist. animal.* They swim over the Sea like Ships,

Ships, the Master Buck leads, the rest follow. They lean their heads one upon the others back; then the first brings up the rear, when he is weary, and would refresh himself. By nature they conquer Serpents. For by strong sucking in their breath, they will draw them out of their holes, and then devoure them. After this Banquet they bathe themselves, and eat Crevish. Then they weep, and their tears are turned to Bezar stones. They die, if they drink before they have done this, *Gesner.*

CHAP. XI.

Of the Dog.

THere are many wonderfull things in a *Dogg*, his manner of birth; quick sent, biting, docile nature, fidelity and the like. The puppies are borne blind; the more they suck, the slower they are to see; but commonly in 7; days, if they see quickly; but 20, days is the longest time. Some say, if one Whelp be littered, he will see in 9, days; if two in ten, and so it is if there be more; each addeth a day of blindnesse to the time. Lastly, one bred of the first litter of a Bitch will see soonest. The best of the puppies is that which sees last, or which is first puppyed. *Albertus* writes, that he saw a Mastiff that first littered 19, then 18, then 13, at one time. He hath a sent so quick that he will never eate *Doggs*-flesh, be it never so well seasoned to deceive him. In *Scotland* there is a kind of them that will persue a theif, and if he passe over a River, they will swim over after him, and when they come on the other side; they will hunt about to find his foot-steps, and still follow him; *Gesner.* A mad Doggs biting is wonderfull Venemous and deadly. (He runs mad about the Dogg days with the Tooth-ach; he is cured if he eate Hellebour with Barley flower, and Vomit it up again) the pisse of a mad Dogg trod upon hurts extreamly those that have an Ulcer, and it is observed that their wounds will increase by treading on it, that were ever bitten by any Dogg. They will cause Hens eggs to grow addle, and Cattel to miscarry. A man had a wound in his Arme: that, after 12 yeares that he was bitten, became sore again, and he died in two days. *Albert.* Fear of water first troubles such as are bitten, and, which is the greater wonder, after 7, years it may shew it self; One thought, that he was cured, being washed with Sea water, yet after some months by touching of the Dogg-Tree-Wood he fell into a relapse. *Gesner.* Also in their Urine, Doggs heads are said to appeare. As for their docilenesse and fidelity, there are many examples. The Dog of *Francis*, *Marquis* of *Mantua*, would call his servants. They will draw Coaches, carry burdens in *Ibissibur* a Countrey of *Tartary*. *Lipsius Cent.* 1. had a Dogg at *Lovain* that would carry letters so far as *Brussels*, *ad Belg. Epist.* 44. and he would bring letters back from thence

thence. A Dogge at *Brussels* would carry money to the Shambles, and fetch some meat, he fought with other Doggs upon the way, and when he was beaten, he laid hold of a peice. The Dogs at *Rhodes* knew Christians from *Barbarians*, *Gabel in Histor.*

A certain Mountebank in the time of *Justinian* the Emperour had a Dogg that would take up many Rings, cast down, and restore every man his own; he would tell you by pulling them by the cloaths which was a Wife, a Widow, or a Maid. Lastly, in *Plutarch*, there was one that would represent a Man that was poysoned. We read of the wonderfull fidelity of Dogg in *Scaliger his Exercitations*, I will set it down in his own words, and upon his own reputation: A Courtier envying the credit of a certain friend of his, or carried away with some other malice, came suddenly upon him, and killed him, and after buried him in a place besides the way. The party slain had at the same time a Hound with him, who lay a long while upon his Masters grave: Hunger for that time overcoming love, he returns home, and being seen without his Master by some other friends, who thought the dog had been strayed from him, they bade that some meat should be given him. Having let down a few morsels, he returns to the grave; Which course he continued so often, that the friends of the dead began to suspect; and at last believed that the Dog sought for his Master: They follow him, and coming to the place where the earth was cast up, dig into it, find the body, take it away, and cause it to be buried in another place. The solemnities ended, the dog keeps with them whom he had led to this discovery. A good while after, the Murtherer comes again to the Court; the Dog knows him, and begins to run at him with great cryes, and so earnestly pursueth his point upon him, that suspition begins to enter into the minds of a great many, that there was some evill in the man. The dog continuing still to vex him, the King was at last advertised of the case, who commanded that the man should be straitly examined touching the fact. He affirmeth himself innocent: The dog, when the Murtherer denyed that he knew what was become of the Dogs Master, never left barking and bawling; insomuch, as all that were present took the same as a disproof, that the dog made against him. Well, the matter proceeded so far, that the King ordered it should be decided by a Combat between the man and the dog: To make short, the dog had the day: and the Combat is painted and finely set forth in the Hall of a certain Castle in *France*; and the work wearing out with age hath sometimes been renewed by Commandement from the King. It deserveth (saith the Lord *de la Scale*) to be set forth in pictures of brasse, that it may never perish.

But to close up this Discourse, we will adde hereunto that which *James Micyllus* a learned Poet hath written in praise of a Dog, in good Latin Verses, expressed thus in our Tongue:

Of any Beast, none is more faithfull found,
Nor yields more pastime in house, plain, or woods;

Nor

Nor keeps his Masters person, or his goods
With greater care, than doth the Dog or Hound.
Command: he thee obeyes most readily.
Strike him: he whines and falls down at thy feet.
Call him: he leaves his game and comes to thee
With wagging tail, offring his service meek.
In Summers heat, he followes by thy pace:
In Winters cold, he never leaveth thee:
In Mountains wild he by thee close doth trace;
In all thy fears and dangers true is he.
Thy friends he loves; and in thy presence lives
By day: by night he watcheth faithfully
That thou in peace mayst sleep: he never gives
Good entertainment to thine enemy.
Course, hunt, in hills, in Valleys, or in plains;
He joyes to run and stretch out every lim:
To please but thee, he spareth for no pains:
His hurt (for thee) is greatest good to him.
Sometimes he doth present thee with a Hare,
Sometimes he hunts the Stag, the Fox, the Boar,
Another time he baits the Bull and Bear,
And all to make thee sport, and for no more.
If so thou wilt, a Collar he will wear;
And when thou list to take it off again,
Unto thy feet he coucheth down most fair,
As if thy will were all his good and gain.
In fields abroad he looks unto thy flocks,
Keeping them safe from Wolves and other Beasts:
And oftentimes he bears away the knocks
Of some odde Thief that many a fold infests.
And as he is thy faithfull bodies guard,
So is he good within a Fort or Hold
Against a quick surprise, to watch and ward;
And all his hire is bread musty and old:
Canst thou then such a creature hate and spurn?
Or barre him from such poor and simple food?
Being so fit and faithfull for thy turn,
As no Beast else can do thee half such good?

CHAP. XII.

Of the Marmaset *and the* Catoblepas.

IN the Country of *Prasium*, Monkeys are as big as great Dogs. The tail of one is five cubits long; hair hangs down from their foreheads, and they have long beards, and an inbred tamenesse, *Strabo l. 15.* There are others wonderful great, like to men. For by their legs,

legs, face, privities; they look like Countrey men, they are elsewhere all-over hairy. They love Children and women, and desire to embrace them, *Cardanus*. The common ones are well known, they have testicles of a blew and green colour. When they eat up the ears of Corn, one of them lies perdue in the field, and makes an outcry when he spies a Country man, the rest fly. They so hate a Crocodile, that they cannot endure to see his skin at a great distance. *Gyllius* made tryal of it, and he observed, that they being tyed in chains, yet trembled and scowred, and would have run away through fire and water to escape. In the borders of *Cariai*, there is a kind of them that will leap from bough to bough, as if they flew; they are enemies to Boars; for it will leap furiously upon him, and twine about him with the tail. *Ælian l.* 3. saith, That the *Catoblepas* is like the Bull, and is very terrible to behold, and sleepy, and with blood-shot eyes it looks downwards. It feeds on venomous herbs, and so soon as it looks on them with a countenance like a Bull; it fears, and lifts up the Mane; having lifted up this, with open lips it roars terribly, sending such a steam out of the Throat, that the Ayr over the head will be infected, and will make others dumb that draw it in, and causeth mortal convulsions. The Souldiers of *Marius* found it to be so; for they supposing it had been a wild sheep: they ran at it with drawn-swords several times, but when they were killed by it, they found their errour. This wild beast was slain afterwards by the *Nomades* that were horsemen, and they brought it to *Marius*.

CHAP. XIII.

Of the Baboon *and* Chamæleon.

A *Baboon* is a Creature with a head like a dog, but in shape like a man, he will fish cunningly; for he will dive all day, and bring forth abundance of fish. He takes wonderfull delight to wear a garment; he hurts no man. He understands what the *Indians* say, he will gently feed sheep for their milks sake, *Plin. l.* 7. *c.* 7. *Strabo, l.* 15. Two things are most wonderful in him, that in the two equinoctials, 12 times a day he will make water, once every hour, and doth the same at night, *Precios. Johan. in Epist. ad R. P.* Hence the *Egyptians* have the picture of a *Baboon* pissing upon their Dials. The second is, that when the Moon hath been sometimes in conjunction with the Sun, and loseth her light, the male will not look nor feed, but holds down his face to the Earth; nor will the female move her eyes any way, casting withall her sperm forth. Therefore are they held sacred, and fed untill this day, that by them the set time of the Moons conjunction with the Sun may be known by them. *Africa* breeds *Chamæleons*, but *India* more frequently. He is said to have five toes of his feet, which he stands upon opened, but he draws them in when he lies down upon round young branches. He changeth

geth his colour oft-times, both in his eyes, his tail, and his whole body; and he changeth like that thing he next toucheth, except red and white; when he is dead he is pale, *Plin.* It is certain, that sometimes he lives by the Ayr. For he will suffer hunger a whole year, and taking in the Ayr by gaping, and shutting his chaps, he will shew forth his great belly. Some said that he turns to the Sun, and drawes in the Suns beams, and followes them with open mouth. From *Zandius* we have it, that he will hunt flies: who saith, he dissected the tongue of one that was as long as ones hands breadth; hollow, and empty, in the top was a hole with snivel in it, with which he catcht his prey, *Card. de subtil.* *Alexander Myndius* saith, he senceth himself against the hungry Serpent, after this manner: *He holdeth a broad and strong stalk, and turning himself under that like a buckler, he encounters the Serpent. The Serpent, because the stalk is broader than he can take in his mouth to bite in sunder, and the rest of the* Chamæleons *limbs are too hard for him to do him any harm, he labours in vain.*

CHAP. XIV.

Of the Crocodile.

THe *Crocodiles* are bred in *Egypt*, but not all so dangerous; the furious ones are towards the Mountains, from *Caire* to the Sea they are mild; that is because there is scarsity of fish; but here are men that are rewarded to kill them. For whosoever kills a great *Crocodile*, and brings it into the City, hath ten crowns out of the Treasury. Also when *Nilus* runs back to its channel, the Crocodiles will lye hid in the mud, watching to satisfie their hunger; and they strike those that come, and strangle them with their tails. They strike so strongly, that one of them brake the four legs of a great beast at one blow, *Martyr.* They lay one egge as big as a Goose egg, yet from this small beginning they grow to a vast bignesse; sometimes they are more than 18 cubits long. In the time of *Psammeticus* 25 cubits; in the time of *Amasis* 26, *Plin.* They hold their young one legitimate, if he catch up something so soon as he is hatched, *Ælian.* Their tongue sticks all fast, the reason is given by *Aristot. l.* 2. *de part. Anim. c.* 7. The *Trochilus* is his guard, and the *Tentyritæ* are his Enemies. He awakes him when *Ichneumon* is like to do him hurt, and entring into his wide Jaws he pulls out flesh from amongst his rows of teeth with his beak; when he flies away, he is warned to close his upper chap, *Plutar. Plin.* 8. 25. But these swim in the River, and getting upon their backs, as if they rid, they thrust a bough into their mouths, and frighting them with their cry alone; they compell them to vomit up the bodies they had newly devoured, that they may be buried; hence it is that there are none in their Island, and the very smell of a man will make them fly away. How he fights, the history of him will shew.

CHAP. XV.

Of the Horse.

IN *Portugal* they say, the Mares conceive by the wind, *Varro. Pliny*, and *Solinus* affirm, that the Birth is fruitlesse, for their Colts live not above 3, yeares. *Justinus* calls these things Fables. In the Island *Hispaniola*, the foals conceive in ten months after they are born, and oft times they beare twins, *Peter Martyr*. A *Barren Mare will conceive*, saith *Aldrovandus, if you bruise a little handfull of Leeks in a Mortar, and powre upon it a little cup of Wine, and shall for two days cast in 12. Spanish flies of divers colours into the Matrix with water by a Syringe: the next day have your* Horse *to the Mare that is lusty; when he hath leapt her, wash the privities twice*. In the Province of *Belascia* their hoofs are so hard, that they are never shod. Amongst the *Ambes* they are so swift, that they will run a hundred miles in 24 houres. *Ludov. Rom. l. 4. Navig.* And Historians relate of such a one that was taken in the *Alanick* Warr by Prince *Probus*. In *Artois* the Governour of the Fort, *Mellomus*, had one bred, very large, and with Horns: at this day is to be seen the leap he made, which was 60, foot. *Lipsius Cent. 3. ad Belg. Epist 56*. They live very long; some have come to 50, yeares, and some above 60, yeares. *Albert Solinus* and *Niptus* say 70, years. The same saith, We have observed that, in *Opus* by name, a Mare lasted to breed on; for 40, years. They so fear a Camel that they cannot endure to see him or smell him, wherefore *Cyrus* when he was to fight against *Cræsus*, opposed his Camels against the others Horses, *Herodot. Pliny* writes that if Horses tread where Wolves have passed, they will be benummed in their legs: and *Ælian* adds, that if they touch the foot step of a Wolfe when they are in a Wagon drawing, they will stop presently as if they were frozen. The *Tartars* love to eate their flesh, and the rich men had it rosted in their feasts in *Persia*. The *Moscovites*, of old time Servants to the *Tartars*, were wont to pay tribute to them in their journeys, by their Duke when they demanded it, of Mares milk. Their sweat, causeth women with Child to suffer abortion, and if Knives hot be wet with it, they are so infected that the part they wound, will bleed till they dye, *Albert*. They will weep: *Cæsars* Horse wept 3, days before he died. *Cardan* had a Gennet that would weep abundantly, chiefly in Summer. They are so docile, that *Alexanders Bucephalus*, nor *Cæsars* Gennet, could be ruled by any man, except his Mr. There have been seen in *Olandia* an Island of the *Gothick* Sea, that at the sound of a Tabret would dance. *Scalig.* writes of one thus, *A certain Mountebank led about a little Horse, which would do any thing at his word, or beck; amble, trot, run, leap, on four or two feet, drink Wine, sit on his buttocks, and bring his forefeet to the cup, he would hold a Bason or Dish, with his Legs, as if he were to be barb'd, he would lye on the ground at length, and shut his eye lids and nod. He would lift up his head at his Masters beck, turn on his back, and lye to shew how women lay: this*

this I saw, saith he, and we also, saith Gaudentius Merula, *saw a Horse of a Physitian of* Pannonia, *that stood at the dore untied till his Master came forth from visiting the sick, if it were a whole day, &c.*

CHAP. XVI.

Of the Urchin.

A *Hedg-Hogg or land Urchin*, is a Creature with a Hogs snowt, he hath most stiff bristles on his skin, that a sword can hardly cut them. *Volchurus Coiter*, first observed that he rowls himself up like a ball, by reason of a long and broad Muscle over his whole back that contracts the skin. He opens, if you poure water on his belly. For because he cannot breath, he opens and cries with a shrill note. *Rosenbach in Indice*. About the time of the Vintage, he goes under the Vines, and he breaks down clusters of Grapes, and takes them upon his prickles, *Plutarch*. When he is taken he pisseth on his back, and it corrupts, therefore hee never useth that mischievous way, but when he is past hopes, for they hate their imbred Venom, and will not hurt themselves; and will stay till the very last, that they will first be almost taken.

CHAP. XVII.

Of the Elephant.

THe *Elephant* is a stranger with us, but the *Indians* and other places have them common. The King of the *Palibroti* had 90000, of them; of the *Siamenses*, 12000; and 4000 of them were armed against sudden occasions. The great King of *Mogor* had 50000 at command. *Vartomannus* saw heards of them in *Mozambica*. In *Africa* there are plenty. For *Appianus Alexandrinus* writes that there were 300 stalls for them at *Carthage*. Many strange things are spoken of them, and the most part past beleif. *Lipsius* hath collected them in his Epistle; we shall briefly reduce all to two; that is to their body and soul. As for the first; it is exceeding great, the greatest of all land creatures, wherefore the Hebrews call him in the plural number *Behemoth*. It is certain that of old time they carried Castles of armed men into the Field, and an Author nameless writes that he saw one of their teeth sold for 36 Ducats, it was 14 spans long, and 4 spans thick: so heavy that he could not take it up from the ground *Aldrovandus*. In his heart he hath a bone wonderful big, that *Aldrovandus* writes he saw in one that was killed. *Aristotle* maintains that he hath three stomacks. There were two found that weighed 225 pounds, *Vartomannus*. As for its soul, Writers set down great endowments that he

he hath. *Christophorus Acosta*, who searched diligently the *East Indies* writes things that are incredible of them. *It is most certain, saith he, that in the Kingdom of* Malabar *they talk together, and speak with mans voice. There was, saith he, in the City* Cochin *an Elephant, who carried things to the Haven, and laboured in Seafaring matters: when he was weary the governour of the place did force him to draw a Galley from the Haven which he had begun to draw, into the Sea: the* Elephant *refused it, the Governour gave him good words, and at last intreated him to do it for the King of* Portugal. *Hercupon, (it is hardly credible) the* Elephant *was moved, and reported these two words clearly, Hoo, Hoo, which in the language of* Malabar *is, I will, I will, and he presently drew the ship into the Sea. There was another example at* Rome; *when* Tiberius *was Emperour, 12,* Elephants *were brought into the* Amphitheatre, *in Cloaths that Players use, and first their Commander divided them into several places of the Circuit, as they went they went easily as if they danced, and again when he spoak, they came together and danced in a round, and they scattered their flowers and Garlands, and according to the musick, they gently and in order moved their feet, and performed all things as well as the best sword Players. Then they (which is a mad wonder) as they were taught, sat down at Table, did eat and drink very modestly as if they had been men. The beds to sit on were low, covered with Purple, and embroidered work, the Tables were furnished with divers kinds of provision in abundance, cups of Gold and Silver, great and small; were set upon them, in great dishes were meat, bread, flesh, and fruit. Then came in the* Elephants, *6, males, and 6, females, they in Mens Gowns these in womens Cloaths. They lay themselves very decently and reverently on the beds, and so sat at Table. Then, when the Mr. gave the sign, they put forth their snowts to the Table instead of hands, and take the meat very modestly, and tast of it, no greedinesse or ravening was observed in them, none seemd to covet the greater or the better part, nor did they catch one before the other when boys that waited on them gave them the cup, and then by meanes of their trunk drank it jovially off, and they did sprinkle the remainder of the wine upon the standers by, and so made a noise as pot companions do. Lipsius* writes this in his own words, and it is the direct opinion of *Ælian*. And they learn all these things so eagerly, that *Plutarch* and *Pliny* say, that an *Elephant* that was somthing dull, and was often beat for not learning well, was found acting his part by Moon light, and some say that *Elephants* will learn to write and read. For *Pliny* saith plainly from *Mucianus*, that one of them learned to describe the Greek letters, and did write in the same tongue these words. *I my self writ this, and I offerd the Celtick spoils.* But what we may judge of them may be collected out of *Libavius de Intellectu bestiarum*. They seem also to hold a sympathy with the Moon, for when the Moon after Conjunction begins to appeare again, they crop boughs from Trees, and hold them up, and looking toward the Moon, they shake them. They may s[illegible] [illegible]ere her dicty. But I say no more.

CHAP.

CHAP. XVIII.

Of the Dormouse, *and* Gulo.

THe *Dormise* sleep all the Winter as round as a ball; when they come to the calm Ayr they will revive between your hands, by a warm breathing, *Gesner*. They are strangely taken in the valley of *Pelning*: for the Country men go forth in the night with Torches, and coming near them, they blind them with the light, and so take them with their hands. They put Apples on cleft sticks or forks, which the *Dormise* love to eat the kernels of, so they can the better take them out: Amongst the *Rhetians* that speak Italian, they salt up their flesh, because it is sweet and fat, and as pleasant as hogs flesh, *Gesner*. *Gulo* is a creature in the North parts, he feeds on Carrion, till he be full like a drum; then he goes between narrow Trees, and presses his stretched belly till he unload himself, and then he crams again, *Michov. l. 2. descript. Sarmat. Europeæ.*

CHAP. XIX.

Of the Hyæna, *and the* Porcupine.

THe *Hyæna* is a Creature as big as a Wolf, and hath horses hair; but harder, and it goes all over his back, *Aristot. in admirand.* He seems to have the genitals of both Sexes; but some have onely a long line under their Tail, *Aristot.* If you take hold of the right, when he is at his venery, he becomes stupid; but if by the left, it kills him, *Gillius in Ælian.* A *Porcupine* is like a Pig at two moneths old, he hath a head like a Hare, ears like a man, feet like a Bear, a mane that stands up, and the forepart is hollow. Two little bunches of skin grow on both sides of his mouth; long bristles grow out of them. In Summer he lies hid, but comes forth in Winter: and when it is great with young, it is said to follow the Bear in time, *Agricola de subterran.* *Gisner* refers *Cardanus* Monster to the *Porcupine*, for he writes thus, *l. 10. subtil.* *There was a Creature (saith he) of a strange kind, which this present year 1530, January 19, we saw at* Papia; *It was as great as Fox, but the face was something longer, and the jawes were like to a Hares, with long hair, and two very long teeth, for they stuck out as long as a mans singer, like to a Squirrils teeth, the eyes were like to Serpents eyes, black, and without corners. There was a cap on its head like a Goats beard, but no otherwise than a Peacocks tuft. The hair was like to a weasels, very fair, onely about the neck it appeared like white wooll; the foresfeet were like a Badgers, the ears and hinder feet like to men, but that the feet had nails like a Bear. On the back and hinder part, there were about a hundred thorny quills like a* Porcupine, *some of them were crooked at the point; they stuck forth, but were not moveable, as they say the* Porcupine

can

can shoot hers; when it moved they made a noise by rustling together. The tail was like a Gooses, but the feathers were pointed like thorns. If you saw nothing else, you would say it were a Goose. He had feathers white and coloured, and a great eye like a Goose. The tone was obscure and hoarse like the barking of a dog. It was an angry creature, yet the Mountebank could easily deal with it. It hated dogs extreamly, this was a young one, and a shee. It did not drink, but eat bread dipt in water, &c.

CHAP. XX.

Of the Hee-Goat.

A *Goat* sometimes runs so violently at one, that he will run a hole in a board, or a Target: after he is 7 months old, he begins to couple, *Ælian.* His blood is a present remedy for the pains of the stone in the Reins or bladder. For it dissolves stones that are bred, and will let no more grow, easing the pains also, *Aetius l.* 11. *c.* 12. But great *Gesner* shews how it must be prepared. When the Grapes begin to grow ripe, take a new pot, and pour water into it, and boyl it untill the pot have been well cleansed, then take a *Hee-goat* that is of ripe age, out of the herd, about 4. years old, and kill him, and receive the middlemost blood in the pot, leaving that blood that came first forth, and that which comes last: let the middlemost blood thicken, and as it is in the pot, break it into many pieces with a sharp reed, then expose it to the open Ayr, covered with a thick net, or thin linnen cloath, or a close sieve, that it may be prepared by the Sun, and become dewy; wipe off the dew, and after two of the clock set it in the Sun, taking care that no rain fall upon it. When it is well dryed, put it up diligently in a box for use; and when the pain abates, give a spoonful of it with Candie wine. This medicament is called Gods-hand.

CHAP. XXI.

Of the Goat call'd the Evick, *and the Indian Rat,* Ichneumon.

THe *Evicks* in the *Alps* are a kind of wild Goats. They naturally require cold, otherwise they would grow blind. They have huge weighty horns that are reclining toward their backs; and the elder they are, so much the greater. The old horns are with 20 knots grown on them, and then two of them weigh above 16 pounds. There is no rock so steep but they will leap upon it, if they can but find place to stand; some say they will climb up a steep wall. Hunters say, that when they are ready to die they will clamber up a very high rock, and leaning one horn against the rock, they will run round continually, till they have broken it, and fall down dead, *Gesner.*

Ichneu-

Ichneumon is a Creature in *Egypt* with a long tail, like to a Serpents, *Oppian.* Without the Chin he hath an excrescence beset with hair; when it is hot he openeth that, his mouth being shut. The Country men of *Alexandria* sell the young ones in the Market; for they bring them up to catch Mice, which they will do like Cats. He is an Enemy to the Crocodile; for when he observes him sleeping, he rolles himself in clay, and goes into his mouth, and so into his belly, and eats his Liver, and then leaps forth again, *Gillius in Oppian:* but *Gesner* will not believe it.

CHAP. XXII.

Of the Lion.

THere is plenty of *Lions* in the Province of *Gingui*, they are so offensive to the Inhabitants, that they dare not go out of their houses by night, nor come with Ships into the Haven, *Gesner. Lions* bones have no marrow in them, and are so hard, that they will strike fire, *Ælian.* They have teeth like Sawes. Their neck is made of one stiff bone, without any *vertebra's*: they have five clawes on their forefeet, and but four on the hinder feet; the balls of their eyes are black, *Aristot.* They are no gluttons; for they eat but once in two dayes, and drink in like manner; for when they are crop-sick, they will abstain one day; and when they have eaten too much, they will thrust in their clawes down their throats, and pull it out again, *Aristot.* When they have filled themselves with the flesh of any creature, they will breathe on the remainder with open mouth; whence it will stink so, that no Creature will touch it, *Ælian.* They sleep but little, and when they do sleep, their eyes are half open. They bring forth but once in their life, and that but one, saith *Herodot. hist.* 3. The Whelps littered, sleep 3. dayes; The Males roar, and rouze them, *Gellius l.* 13. *c.* 7. They love their young ones exceedingly. In *Pangeum* a Mountain of *Thrace*, a shee-Bear had killed the Lions Whelps, when the Lyons were absent; and she was gon, and clamberd up a Tree. The old Lyons followed, but they could not get up; so they could not be revenged. The Shee-Lyon stay'd, and the He went into the Mountains, and found a Shepherd with an Ax, the Lyon fawnd upon him who was sore afraid, and makes him take up his ax: and taking hold of his Cloths, brought him to the Tree: which being cut, the Bear fell down, and they tore her in peices. The Lion is mild to them that yeeld. He will scarse hurt those that lye down, and when he is not hungry he will seaze on men, rather then women, but not upon Children unlesse he be extream hungry. *Avicenna* writes that if any man throw a stone or dart at the Lyon, and misse him, or hurt him but little he will rather threaten him than kill him: if he do revenge, he will do no more hurt, than he received; *Crantzius in Saxon. l.* 8. *c.* 24. He saith, that formerly in England a Lyon could tell noble blood from base. There are tame ones; For in a plain Country of the Kingdom of

Fez

Fez, they will drive them with a staffe, and in another Country of *Africa*, they gather bones in Villages, *Leo African.* Lastly those of *India* are so gentle, that being used to the place they will be led on hunting, *Ælian.* *Marcus Antonius* first yoked them, they are frighted with Coach wheels running round, and with the Combs, and Crowing of Cocks, but chiefly by fire, *Plin.* In *Armenia* they are killed with the powder of deadly fish, *Ælian*, and some little Worms that are Venemous to Lyons, with the powder whereof they strew flesh for them, *Solin.*

CHAP. XXIII.

Of the Hare.

THe Country of *Ithaca* is dangerous for *Hares*, for bring them thither they will dye. But the *Baleares* is a pleasant place for them: for heretofore they were there in such abundance, that the inhabitants desired Souldiers to assist them against them, from *Augustus*, *Pliny.* The young ones are white in the Alps in Winter, *Gesn.* But *Pausanias* saw in *Arcadia* white ones brought from *Lybia.* He wakes with his eye lids shut, and sleeps with them unmoved, *Xenophon.* He sees but ill, for the eys are stretched out, the eye-lids are cut short, they do not cover the pupills of the eys. *Albertus* denies that there are of both sexes, but *Niptus* saith, That which *Albertus* said concerning Hares was alwaies a question with me, for in hunting I observed that a *Hare* had both a yard and testicles, and had young *Hares* in her belly, also we observed that a *Hare* had a Matrix, and young ones in it, and did want both pissle and testicles. *Rondeletius* thinks, they are little bladders full of *sanies*; and indeed such do hang down from the beaver, wherein *Castoreum* is contain'd. They are said to live with dew, they use superjæration, and bring young ones every Month. When they go to their forms, they lay their young ones at least, an acre of ground asunder, lest if danger come, they should be all in hazard. Then they, running about many rounds, at last leap out into their form.

CHAP. XXIV.

Of the Wolf.

IN *Sardinia*, *Candie*, *Olympus*, there are no Wolves. In *Scandia* if they go too far on the frozen Sea, the cold blinds them, *Jervand.* In the Mountains of *Doffrinium* they are white, and go in Troops. They eat Moles, Mice, &c, *Olaus.* Their necks are pressed together, so that they cannot stirre it, to look about, but they must move their whole bodies, *Ælian.* One that is hungry will smell his prey in the night,

night, though the wind be contrary, for half a mile, *Stumpfius.* When they have fasted very long, and have filled themselves again, their bellies will hang down, their tongues swell, their mouth is stopped, their ravening is abated, but returns again, when they become lank as they were, *Ælian.* They devour hair, and bones and all, and void them as they eat them, *Stumpf.* When they are to fight in great herds, they fill their bellies with earth. When they are to passe over Rivers, they joyn tails; loaded with that weight they are not easily thrown down, and the floods can hardly carry them away, being joyned together, *Ælian.* When they have choice, they will alwaies spare man; they fight also with hogs, very cunningly. *One told me*, (saith *Albertus*) *that a wolf was seen to take a great piece of wood in his mouth of* 30 *or* 40 *pound weight, in a Forrest, and did use with that to run over a great stock of a Tree, then when he thought he was skilfull enough in that exercise, he hid himself, and a wild hog coming thither by reason of Oates that were sowed there, and many hogs young and old with him; he brake forth, and catched the hog, that was about the bignesse of the block, he lept behind the stock of the Tree and there devoured him.* They will not eat Oxen, if you hang his tail at the Cratch, *Albert.* Horses will tire under the rider, if they follow on the Wolves footing; if they tread on his heel, they will stand still, *Gillius.* The skins of sheep slayn by Wolves, will breed lice; but their flesh is the sweeter, *Aristot.* *Plutarch* ascribes this to his breath. His words are, *The flesh of a sheep that is bitten by a wolf, is made the sweeter, because the biting of the wolf makes it soft and tender; for the breath of the wolf is so fiery, that he will melt and consume the hardest bone in his stomack.* Examples shew, that when he is shut in, he will do no harm: For in *Italy*, one going into a Country-mans house, the Country man ran away; but the Wolf did his Children no hurt, and falling into the same Cave with a Fox and a Woman, he hurt neither, *Gesner.*

CHAP. XXV.

Of the Lizzard.

VOlatteranus writes, That there was a *Lizzard* 8. cubits long brought to *Rome* from *Æthiopia*, by the command of a Cardinal of *Lisbone*, and the mouth of it was so wide, that a Child might be put into it. *Lerius c.* 10. *hist.* saw one in *Brasil*, 7. foot long, as thick as a mans arm. If you strike it on the soal, and cut it in two pieces with a twig, neither part will dye, but it parts, and first goes, then joyns together, *Ælian.* The green ones are friends to man, that they will gaze upon him obliquely, and follow him when he goes, they will lick up his spittle, and Childrens urine, *Erasmus in colloq. de amicitia.* Put alive into a new earthen vessell, and boyl'd with 3. *Sextaryes* of wine to one *Cyathus*, it is excellent good for one sick of the Phthisick, if he drink of it in the morning fasting, *Marcell.* Seven of them suffo-

cated

cated in half a measure of oyl, and set in the Sun for 3. dayes, will so alter it, that by anointing therewith, it will cure the Rose, *Gesn.* A water *Lizzard*, if he be angry, and as it were puffed up, will stand upright on his feet, and look terribly with open mouth on him that hurt him, and will by degrees send forth a venomous white swear, till he become all white, *Agricola*. When he is old and cannot see, he lies by a hole in the wall, against the East, and looking toward the Sun rising, he regains his sight, *Isidor*. To conclude, 'tis a wonder that *Elian* speaks in his *history*. *There was* (saith he) *a man that catcht a great* Lizzard, *and with a brazen point he put out the eyes thereof, then he put it into an Earthen pot full of holes, that it might have breath, yet not come forth; he put in also dewy earth, and an herb, whose name he mentions not: then with an Iron ring, wherein the stone* Sogates *was set, in which was cut the picture of a* Lizzard *he made 9 seals, and every day he blotted out one: Lastly, when he took off the 9th. seal, and opened the pot, I saw the* Lizzard, *and his sight was restored.*

CHAP. XXVI.

Of the Lynx, *and* Lutra *or* Otter.

THe *Lynx* is said to see so clearly, that he will pierce through solid bodies; yet too great light offends him. Some say, they onely suck the blood of their prey, and never meddle with the flesh. *Erasmus* saith, he assaults greater four-footed beasts, leaping upon them from Trees, and catching them by the crown with his talons, he will tear their heads, and eat their brains, not touching the other parts; but he will eat lesser creatures every bit. In Summer they are weak, in Autumn strong. They hide their pisse in heaps of sand, as *Theophrastus* saith, and it growes as hard as a pretious stone. It is like Amber in colour, and drawes things to it; it cures pains of the Kidneys, and the Kings-Evill. We saw one at *Lyons* in the repositary of *Cl. Dominus Baudartius*. Men say, that in *Carpathus* they burn their claws, and their skins for to be drunk effectually by men in powder, against all obscenenesse, and against too great lust in women, *Plin.* The flesh eaten with the broth cures quartan Agues, and the bones burnt cure Ulcers, *Collinus*. In the Tower of *London* there was once a living Creature that *Gesner* refers to a *Lynx*; It was alwaies moving, and would never stand still, as *John Caius* an Englishman writes; but it would stand still at the voice of a *Hickeway*. *Lutra* hath a Dogs head, the Beavers ears, a Foxes legs; but these are somewhat thicker, they are more prevalent in Water than on Land. The hinder parts are plain with a membrane to fence them. His Cottage is near the waters, it is made of boughes that it cannot be wet. Sometimes it is so full of Fish, that they stink. It is so quick-sented, that he will smell fish by water that comes forth of a rivulet at some miles distance, and will go to the Fish-ponds and destroy them.

them. In *Scandinavia* he is so tame, that he will bring fish out of the water to the Cooks in the Kitchins; but because he is greedy of his prey, and kills too many, he is seldom used.

CHAP. XXVII.

Of the Mouse.

AMongst the *Allobroges* the *Mice* are white, and the Inhabitants think they live by Snow, *Scaliger*. In the Island of *Cyprus* they will gnaw Iron; and in another Island, Gold; therefore they are cut in pieces for mettal, *Aristot. in mirab.* Their generation is wonderfull: If they do but lick salt, some think they will conceive without copulation, *Aristot.* A thee Mouse great with young, staying some time in a vessel of Millet seed; when the vessel came to be opened, there were found 120 Mice, *Plin.* In a part of *Persia*, she-Mice were opened that had she-mice with young ones in their bellies. They first perceive when a House will fall; *Helice* is an Example of it; for five dayes before it happened, the Mice and Serpents were seen to go away in Troops, *Ælian. in variis.* When they fall into a vessell of water, and can hardly come forth, they lay hold one by the tail of another, and so clamber forth. Elephants cannot endure the smell of them, for they will not feed on any thing that Mice have touched. They will flye away if one be gelded, or let run away with the skin of his head pull'd off. *Avicenna*; when they cry they foreshew tempests, they cry either because they perceive the Ayre cold, or because their skin is fine, and they cannot endure to tread on the cold earth, and therefore they leap up, *Aratus*. Some think they will not be taught, yet *Albertus* saith in upper *Germany*, he saw a Mouse hold a Candle at supper time, to give light to those that sate at Table, when his Mr. commanded him. If a Mouse fall into new Wine and be drown'd, put him into hot ashes, and he will recover, *Columel.* 12. 31. There are many kinds of Mice; A rat is four times as big as a Mouse. *Agricola* saw one taken in the mid'st of *April*, that was white, with red eyes sticking out; and it was all hairy, and had a beard with very long haires. Men say that there are none to be found at *Ausparg* about the Temple of St. *Huldericus*, when they are lustfull they are furious, so that if they pisse on any naked part of a Man; it will rot to the bones; nor will the Ulcer be cured *Albert Aquatic.* They will hunt fish; and diving under water they will find some holes to come to land another way. The field-Mice that breed of putrefaction have one right gut, and no more. A Physitian that dissected one, observed that, *Gesner*. When *Nilus* runs back again, little Mice are found imperfect, part of their body being alive from the mixture of earth and water, and part dead earth. In some places they come so suddedly in abundance, that they will eate up all the Corn, *Pliny*. The Wood-Mice sleep from the ending of Autumne till the Spring begins.

gins, *Gesnerus*. In *Norway* it is called *Citellus*; it dwells in the Caves of the earth. There are found somtimes 40, in one hole, with abundance of small nuts. They eate them fresh, or dried in the Chimney, *Agricola*. The *Cricotus*, *or Hamester*, is referred to Mice: his haire sticks so fast to his skin, that the skin will sooner come from the flesh, than the hairs from the skin. He will not easily be drawn out of his hole, but by scalding water. The male is false; for when there is meat enough within, he shuts out the female. But she revengeth his falsenesse with fraud; for possessing her self of some hole, not far from him, she will gather Corn he knows not of, and live upon that, *Agricola*. Mice in the Alps are as big as Hares, or else betwixt a Coney and a Hare. It will foreshew a tempest with a very shrill voyce like a pipe, and that not only in the Mountains, but when he is kept in the House. He hath three holes in his cave, at one he enters and comes out again, in another he rests and dwells, in the third he lays his excrements. When Mountains are covered with snow, he hides himself in his Cave, and shuts the holes: he stops in the earth so fast, and rams it in, that it is easier to dig up the earth on either side, than where it is rammed into the holes.

CHAP XXVIII.

Of the Wesil, *and the* Sable Wesil.

Weesils carried into *Bœotia* will run away: in a certaine Island they will not be taken out, for if they be, they dye, *Albertus*. There was a man that affirmed he saw a *weesil* passing over the River *Limagus*, constantly leaping; so that he never swam, but leaped upon the surface of it. It is an *Ægyptian* Hieroglyphick, for they say it ingenders by the eare, and is delivered by the mouth; this emblem shews the nature of speech. His genitalls are bony; and is a speciall remedy against the stone. Yet, that must not, saith *Albertus*, be understood as if it were so indeed, but only by proportion that it hath. The *Germans* call the best sort of them *Zobella*. This skin is of very great price: for sometimes 2000 Crowns at *Constantinople* will hardly buy a coat of them. *Jovius*. But the nature of them is such, that laid in the Sun to dry, they will consume more, than if they be worn a whole yeare. This creature whilst it lives, alwaies lurks in a shady grove, and watcheth for Coneys; They are nimble and use their taile for a helme, as squirrils do, and will leap from Tree to Tree.

CHAP.

CHAP. XXIX.

Of the Sheep.

Sheep are creatures known to all. The *Arabian Sheep* have a very broad taile; and the fatter it is, the thicker it will be: Some tails weigh ten pounds, some 20, and it naturally grows fat. *Johannes Africanus* saw one above 80 pound weight; some have seen them above 150 pound weight. In *Africa*, Rams are bred with Horns presently, and also *Sheep*, as there are some with Horns in England. *Albertus* saw a Ram that had 4, great Horns growing on his head, and two long ones on his legs, that were like to Goats Horns; yet in *Pontus* in the Province of *Scythia* they have no Horns, *Aristot*. And they have no gall; But in the Island *Naxus* they have two, and men say the *Pontic* Wormwood is the cause of it. *Plin*. In cold Countries when the snow abounds, they lose it, but recover it again in the Spring, *Ælian*. *Anno*, 1547, one was given to the *French* King that was very fat in *Picardy*; one of the claws, namely the inward claw of both feet, was eight inches long, the extream part of it turned upwards, and it had a Horn like to wild Goats, *Gesner*. In the Country of *Prasy*, they yeeld most sweet milk; for it rayns liquid honey that they feed on, *Ælian*. The milk is very fat in the Isle *Erythea*, for it hath no whey, and to make cheese they temper it with abundance of Fountain water. The cause is the plenty of pasture. It grows so fat and full that in 30 days the Sheep will be choked, if it be not let blood, *Pliny*. About *Calimos* a Village of *India*, they smell like fish, for wanting grasse they eate fish, and they that feed on fish give them dry fish to eate, *Arrian*. When the North wind blows, males are chiefly conceived; when the Southwind, females. For such is the force of the North wind, that it will change those that yean none but females, and cause them to bring males, *Plin*. When a noise is made they flock together; and if, when it thundereth, one that is with lamb be left alone, she will miscarry, *Arist*. In the Orcades Islands they all almost yean twins, and oft times 3, lambs, *Boetius*. Though their bodies be very soft, yet they are free of the plague, *Columella*. One was seen to run mad, which a mad Cow had hit with her Horn. In England they rot in their bowells, if in rainy Summers they feed on moyst ground, and lick the dew, *Gesner*. In *France* if they eate the herb, *Duva*, they breed black Creatures in their Livers, and this disease is incurable. The *French* in *Normandy* call that hearb *Duva*, that is like to the sharp dock, but the leaves are narrower, and stand alwaies upright, and the middle nerve is almost red, and serves for Causticks, *Gesner*. Meadow water drank, breeds Horseleeches, shut up in bladders in the same place; they are a finger and half long, and almost halfe as broad.

CHAP.

CHAP. XXX.

Of the Wild Goat call'd Oryx, *and the* Panther *or* Leopard.

PLiny reckons *Oryx* amongst wild Goats. When the Moon comes to the East, it looks upon it and cryes; and men say, that for hate thereof, it will digge up the ground with its forefeet, and will set the very balls of the eyes to the ground, and cast it up. Some think it doth the same when the Sun riseth; what place soever in the desart it finds water in, it will trouble it by drinking at it, and stirs the mud, and throwes dust into it, that it may not be fit to drink. The *Panther* smells so sweet, that it will allure all the wild beasts; but the frowning countenance it hath, frights them; wherefore he hides his head, and so they come and are caught. In the right shoulder they have a mark, like to the Moon; and as that increaseth, this increaseth, and decreaseth, *Albert.* It breeds but once in the life-time, if we credit the *Author of the Book of naturall things.* When the young ones are grown in the Mothers belly they will not tarry, but tear out their passage: she with pain is delivered of them, and so can never after conceive again, the parts being corrupted where the seed should stay. *Demetrius Physicus* writes of it, that one of them lay in the way waiting for a man, and suddenly appeared to him: he was frighted, and began to run away, but the wild beast came and tumbled before him that was frighted, and was grieved at it. Which also may be understood of a *Panther*: For she had littered, and her Whelps were fallen into a pit. First therefore he had cause to pity her, and not to be afraid; and next to take care: and he was secure, as he understood the cause of her grief, and followed her, she gently laying her claws and drawing him by the garments; and he had his life for a reward for taking out her whelps; and she having got her young ones again, went along with him, and guarded him out of the desart, and she was jocant and merry, that it might easily appear how gratefull she was, and not to wrong him for his good deeds; which is a rare thing in a Man. They love wine, and when they are drunk they are catcht. The Holy Ghost likeneth *Alexander* the Great, who founded the *Græcian* Monarchy, to the *Leopard.* You shall see the application in *Cl: Domino Conrado Grasero, our Master,* in his *Isagoge of Universal History,* a Work never can be enough commended.

CHAP.

CHAP. XXXI.

Of the Frog.

FRogs couple in the Spring, and lay their spawn in the spring of the year following; in the middle of it the frog lieth hid; the Frogs being come forth, shew their great heads, *Albertus.* At *Lutavia* they catch Bees when they come to drink at the water; it is observed, that they will eat a dead mole, *Albert.* In *August* their mouth is so shut, that they can neither eat nor drink, nor cry; and you can hardly open it with your hand, or with a stick, *lib. de nat. rer.* Their young ones are destroyed by the leaves of Mullens, or Nut-leaves cast into the water, *Ælian.* If a candle lighted be set on the bank, they will leave croking, *African. in Geoppon.* Their spawn is first found in *March*, wash your hands in it, and it will cure the Itch. *Gesner* saith it will cure the worms, whereof a fellon is a kind, if you lay it on your fingers. The *Egyptian* Frogs when they light upon a water-Snake, will take a reed in their mouthes, and so they cannot be devoured, *Gillius.* A Toad burned, will breed again of his own ashes. But in *Darienne* a Province of the New World, they breed presently from the drops that fall from their slaves hands, whilest they wace the pavements. *Martyr* changeth them in Summer into Fleas; he ascribeth it to the filthy muddy Ayr. If you beat him with a wand, he will first cast forth his venom by his legs, and then he sweats some drops like milk. *Frederick* Duke of *Saxony* gave one of them to hold till it grew hot; it was first thrust through with a woodden spit, dryed in the shade, and wrapt in Sarsnet; and this was his remedy to stanch blood. *Gesner* makes the reason to be, Cold. *Boras* is a kind of Toad, especially of a brown colour, and in hot Countries is of a cubital magnitude, and sometimes carries its young on its back. In the forehead of this Toad is the stone found, sometimes it is white, sometimes brown, which is best, if it have a yellow spot in the middle. Some say it is onely a bone; some say it is bred of that bird-lime froth, which Toads meeting together in Spring-time, do breathe into the forehead of one of the chief of them. *Gesner l. 2. de Oviparis,* he cannot believe that it is a stone. He that would heat more of Frogs, shall find it in the books of *Libavius,* his *Battrachiorum,* if he reads them.

CHAP. XXXII.

Of Rangifer, *and* Rhinoceros.

RAngifer breeds in the North, specially in *Norway* and *Swetland*; it is like a Hart, but bigger in body, and exceeding strong. He hath three ranks of horns on his head, so that in each there are two, and his head seems to be set about with twigs. Of these two are greater

ter than the rest; when they come to perfection, they are five cubits, and have 25 branches in them, *Albertus*. They are milked, and will go 30 miles a day, *Olaus*. *Rhinoceros* is a Beast as big as an Elephant, he hath one horn in his nose, and from thence he hath his name. It is moderately bent, and so sharp, that is will pierce stones and Iron, *Ælian*. His skin is very thick with skaly crusts, in colour and figure like a Tortoisse shell; It is so fast, that a Dart can hardly enter it. He is an Elephants enemy, when he fights with him, he whets his horn on a stone; then putting his horn under the Elephants belly, where it is softest, he rends him. He that will see examples, let him read *Camerarius* in *subcisivis horis*.

CHAP. XXXIII.

Of divers Serpents.

IN the Province of *Caraia*, under the King of *Tartaria*, some *Serpents* are ten yards long, and ten hands broad; some want foreseet, but have clawes in the room of them. Their eyes are as great as two small loaves. They are wonderfull good in Physick. For one, bit by a mad dog, if he drink but a penny weight, presently he will be suddenly cured; and a woman in labour, if she taste never so little thereof, will be delivered immediately, *Paul Venetus*. *Americus Vespatius* saw some in the *Indies* that men did eat. They were as big as Kids, and a yard and half long, their feet were long, armed with strong claws; their skin was of divers colours, and nose like a *Serpent*. From the ears to the end of the tail, a certain bristle went quite through the back, that you would think they were Serpents indeed. *Calecut* breeds the like so great as Boars, and sometimes with greater heads, four feet, no venom, yet they bite dangerously, *Ludovic. Rom. in Navig.* In *Hispaniola*, called *Hivana*, of the *West-Indies*, there are some like to these. Their back is with pricks, their heads crested, they are mute, with four feet, a Lizzards tail, very sharp teeth, they are bigger than Conies, they live indifferently in Trees, Land, or Water, and will suffer hunger many dayes. *Anno* 1543, there appeared four-footed beasts in the borders of *Germany* near to *Styria*, they were like Lizzards, and had wings, their biting was incurable. *Anno* 1551, about St. *Margarets* day in *Hungary* near *Zischa*, about the River *Theisa*, they were found in the bodies of many: They killed about 3000 men. Some came out of mens mouthes, but they went in again. It is almost incredible what is reported of those places: That multitudes of them were found in piles or handfuls of wheat: and when the Country men thought to burn them, there came a great many more forth, and charged them with mans voice to forbear, saying, that they were not bred naturally, but sent by God to punish men for their sins.

CHAP.

CHAP. XXXIV.

Of the Squirril, *and* Ape-fox.

THe *Squirrils* have but one blind gut, as great as a stomack, and in dissection it is alwayes found swoln with excrements, *Vesalius*. They are said to have a bony generative part. They foresee a tempest, and opening their holes on the contrary side, they shut those places where the winds will blow, *Albert*. When it would passe over the water for to find food, he takes the bark of a Tree that is very light, and sets it on the water, sitting in it, and stears it with his Tail lifted up, and so the wind carries him over, *Autor. lib. de natur.* The *Ape-fox* is a Creature in *Pariana*, a Country of the Indies: Before, he is like a Fox; behind, an Ape: he hath mans feet, and Owls ears: under his common belly he hath another belly like a Wallet; she keeps her young in this, and it comes not forth but to suck, *Gillius*. *Peter Martyr Decad.* 1. *l.* 9. saith, he saw one dead, amongst such vaste Trees, that 16. men together could not fathom round.

CHAP. XXXV.

Of the Ape.

THere are in some Countries *Apes* in abundance. *Posidonius* saw a wood full of them in the borders of *Lybia*. In a word, *Alexander* saw Mountains full of them in the Indies. He thought when he espyed them by chance, standing upright, that an Army was ready to besiege him, *Ælian*. Amongst the *Troglodites* they have Manes like Lions, and the greatest are as tall as weathers, *Scalig. in Exercit.* In the *Indies Mediterranean*, they are huge bodies, and they follow civill Merchandise without any offence. *Galen* thought them the likest to Mankind, amongst all creatures, for their Bowels, Muscles, Arteries, and Nerves. But *Vesalius* saith, they are the most unlike in the Muscles of the Thorax, that move the arm, cubit and thigh; and those that move the shoulders and toes; and lastly, for the inward structure of the hand. A Male was seen, whose heart had two points, *Albert*. *Scaliger* saw many without tails, as great as a boy of eight years old, and a male and female with their young. If the young desire any thing, the shee is admonished by the hee clinching his fist, and he will correct her with a fierce look, as being guilty of ill-using her young ones. *Mutianus* saith, that those which have such tails, are sad when the Moon is decaying, and they rejoyce and adore the new Moon. He addes, That some were seen to play at Chesse, for they will imitate a man unluckily; for an Ape saw a Midwife wash the Child, and bind him up in swathebands, and lay him in the cradle;

Cradle, when he spide that the Child was alone; he went in at the window that was open, and took up the Child and unswathed it, and washed it with scalding water till he kill'd it, *Ælian.* He is very much afraid of a snail. *Erasmus* saith, *At* Rome *we had an example of this. A man put a snail on his Childs head, and covered it with a Cap. Then he brought him to the* Ape, *who was glad and leaped on the boys shoulder to look lice, taking off his Cap he saw the Snail: it was strange to see how he was frighted and leapt back, and how fearfully he looked backward to see if the snail followed him.* Another example. *We tied a snail to one end of the cord, that the* Ape *was tied with, that he could not get away, but he must look upon it; 'tis wonderfull how he was frighted, only he did not dye for feare; somtimes he strove to drive away the beast that stuck fast with his hinder feet, at last he pissed and shit all he had in his belly; and of this fright he fell into a feaver, that we were forced to let him loose, and to give him wine mingled with water to refresh him.*

CHAP. XXXVI.

Of Su *and* Subus.

SU *in Patagonia*, is a most monstrous beast, she takes her Whelps on her back, and covers them with her tail, when the hunter follows, and so she escapes. Wherefore she is caught in a pit, covered with leaves: when she is taken, she kills her young ones for madnesse, and cryes out so horridly that she frights the Hunters, *Thevet. in descript. Americæ.* *Subus* is an *Amphibion*, with two Horns: he follows shoals of fish swimming in the Sea: Lobsters, Pagri, and Oculatæ, are fishes that love him; but he cares for none of their love, but makes them all his prey.

CHAP. XXXVII.

Of the Sow.

WE shall contract briefly what is said of the *Sow*. It is a creature we know, but it will not live in *Arabia*, *Pliny*. Brought into *Hispaniola*, it grows as great as a Mule, *Martyr*. In *Æthiopia* it hath Horns. In *England* and *Sclavonie*, they have none. In *Macedonia* they are mute, *Ælian*. A *Sows* brain is fat: when the Moon decreaseth, it abateth; the eares are full of a humour like gall. When she looks upward, she is silent; for, looking commonly down ward, when she looks upwards, the light dants her, and her sharp artery being straightned holds in her voyce. *Aphrodis.* Somtimes, she will grow so fat, that it is miraculous. There were two ribs of a Hogg sent to *L. Volumnius* being in *Spain*, they weighed 23, pound; and from the bone to the skin was a foot and 3, fingers, *Pliny*. And *Crescentiensis* saith, that

that the whole hog weighed 570 pound. There was one seen in *Arcadia*, that the Mice and Rats had eaten into it, and bred there: The same happened at *Basil*, *Gesner*. For some Creatures have fat that is insensible: and we read in *Pliny*, that the fat was taken away from the Son of *L. Apronius* the Consul, and his body was made lighter, of a burden one man could not carry. As concerning venery, *Sows* breed often that are homebred; but wild Sows but seldom: For they have plenty of meat, and do not labour much; these must seek for it, and wandring over the Mountains, endure trouble, *Plutarch*. Both of them are so wearied with copulation, that they fall asleep, and will grunt and grow so mad, that they will rend those that come near unto them, *Aristotle*. They will miscarry. They are friends with the Crocodile, and will come to the banks of *Nilus* without offence, *Calcagn.* They mightily hate some kind of Barley in *Thrace*, for they do not onely forbear to eat it, but they refuse all excrements that proceed from it, *Aristot. in admiranda.* The Measils is a common disease amongst them, and there is scarce any Hogg that hath not three kernels. The *Druides* make mention of a famous remedy, an herb that growes in moyst grounds; but because they command us to gather it with the left hand, and that he that gathers it must not look back, and must lay it no where but in their trough that they drink; having first bruised it, it is superstitious.

CHAP. XXXVIII.

Of the Mole.

THere is great store of *Moles*, in *Bœotia* in the Country *Orchomenia*, *Arist.* In *Lebadia* that is near unto it, there are none; and brought from other places, they will not earth. *Aristotoles* saith, they want eyes; but *Gesner* saith, their eyes are plain, and putting forth, without the skin like black spots, as great as Millet seed, and fastned to their nerves. Also a Learned man in *Gesner* saith; That he found young ones in one that he dissected, with great heads, and they had eyes: They delight in Toads; and *Albertus* testifieth it by his own example: but he also knew Frogs and Toads to eat a dead Mole. *Johan. Averlin. Consul Gedanensis* was cured of a fistula in the corner of his eye, by the powder of a *Mole* that was burnt, and given him in powder to drink.

CHAP. XXXIX.

Of Tatus *and the* Tyger.

TAtus is a four-footed Creature that is a stranger to us. It hath a thick covering, and a scaly shell, so that his flesh may be easily taken forth of it. *I first saw this Creature at St.* Andrews *in* Scotland (*it is an Archiepiscopall City, and there is a famous University in it*) *in the place for rarities of the most noble and most courteous Gentleman* John Arnet, *Protonotary for the Office of the Commissary in the Archbishoprick of St.* Andrews, *at whose house I lodged.* But because it drawes it self into its shell, it is thought to be a kind of *Brasilian* Urchin. It is like to that which in new *Spain* is called *Avitochli*: it is as big as a Cat, having a bill like a Duck, feet like a Hedge-hog, a long neck, and men report, that it grunts like a Sow. I have little to say of the *Tyger*, unlesse I should set down the history of *Peter Martyr*, of one in *Dariene*, an Island of the new World. It did so afflict the whole Island with killing people, that no man could go safe out of his house, afterwards it fell into a Pit that was dug, and stuck upon sharp stakes that were fastned in the bottom, and was yet so strong, that it would break Spears cast upon it, into a thousand pieces; but in the end it was killed with stones. *Ledesma* a *Spaniard* saith, they boyl'd the flesh of it, and he eat part thereof, and it was as good as Ox-flesh: It is a Creature so swift, that *Oppianus* compares it to the West wind.

CHAP. XL.

Of the Tortoise.

TTortoises in *Taprobana* are so great, that one of them will weigh 300 pound, *Scalig.* *Pliny* saith, that some are so great, that men may dwell under them. And between the Islands, especially of the red Sea, they sowe in them for Boats. The Sea-*Tortoises* have no tongue, nor teeth, they break all things with the edge of their snowt. In *Hispaniola* at what time they are given to venery, they come forth of the Sea, Sand being cast into a deep pit, she lays 3, or 400 eggs there; when she hath laid all, she covers her eggs with sand, and returns to the Sea, taking no more care for her young ones. At the time appointed they come forth, as out of an Ant-hill, in great multitudes; onely by heat of the Sun, without help of the old ones, *Martyr.* The eggs are as big as Goose egs. When the head of one is cut off, it doth not die presently, but stes, and will shut its eyes, if you put your hands before them; and if you put them near, it will bite them, *Ælian.* *Bellonius* saw a kind of Tortle brought out of *Turky*, that

that the Ancients knew not of. The shell of it is thin and transparent, like to the colour of a Chrysolite. The *Turks* make hafts for knives of them, they are so pretious, that they adorn them with studs of gold. There is an Island in the Sea found by *Jambolus* toward the South, that brings forth little Creatures, that are of admirable vertue for their blood and nature. Their bodies are round and like to Tortles, with two overthwart lines cutting one the other in the middle; in the end of each of them there is an ear and an eye, so that they see with four eyes, and hear with as many ears. It hath but one belly without any gut, and what it eats runs into that. They have many feet round about, and walk both wayes. The blood is said to be of wonderfull vertue. For every body that is wounded will grow together again, if it be sincered with this blood, *Johan. Abelmus.*

CHAP. XLI.

Of the Bear.

IN the farthest part of *Arabia* they devour flesh, *Strabo l. 16.* But in *Mysia* it is otherwise; for when they are hunted, they send forth a breath that will corrupt the flesh of the Hunters; and if they come neater, they will cast a flegme out of their mouthes, that kills or blinds dogs and men, *Aristot. in mirab.* Sometimes they are very great, five cubits long. There was one brought to *Maximilian* that was as great as a large Ox, *Vadianus.* His head is so weak, that a sound blow will strike him dead, *Pliny.* He eats his water when he drinks, and having tasted of the Apples of *Mandragora*, he recovers by licking at an Ant-hill. She is said to bring forth a young one bigger than a Rat, but lesse than a Cat, that is both naked and unformed in its parts, *Gillius*: and *Pliny*, a rude masse. But one that was cut forth in *Polonia* was sent to *Gesner*, it was above ones finger long, and as thick as ones thumb; the body had joynts, except the hinder feet, *Gesnerus.* When he is fat, he creeps into his den upon his backs and so takes away his footsteps, that the hunters may not perceive them. In this den he will grow lean in 40 dayes; and he will keep himself alive, lying still and sucking his right foot 14 dayes. When he perceives that his gut is grown so empty, that it cleaves almost together, he comes forth and feeds on Cuckow pint, *Ælian.* Then there is no shew of meat left, but onely a little moysture in his belly, and some small drops of blood about his heart. *Theophrastus* thought that, during that time, the flesh was digested, and the Bear grew bigger by it. The Males love women. Amongst the *Allobroges*, one was seen, that caught a Maid and carried her to his den, and wooed her vencreously, and fed her with Apples growing in the Woods. *Bin. Angelus* the Prince of *Lithuania* hath tryed it, that they will grow tame. For he bred up a Shee-Bear, which he was wont to feed by hand, and she was wont to run into the Woods and come home again,

again, and would come home into the Prince his bed-Chamber, *Volater, l. 7.*

CHAP. XLII.

Of the Fox.

IN *Caspia* there is such abundance of *Foxes*, that they will go into Country houses, and come into Cities, *Ælian*: and will be so tame, that they will fawn like dogs. They are very strong, in *Sardinia*, for they will kill the fiercest Rams, and young Calves, *Munster*. They are white in *Muscovy*; in *Arabia* they are of an ill-favoured hair, and exceeding bold. At night they rowze one the other by barking, and seeking for their prey, they will snatch away mens very shooes, *Scalig.* When they are to passe over frozen Rivers in *Thracia*, they will lay their ears to the Ice, and so judge whether it be thick enough, *Plin.* When they see a flock of birds flying, they will roll themselves in red clay, that they may appear like blood and they counterfeit themselves dead; but when the birds come to sit upon them, they catch them, and eat them, *Herus.* When they are troubled with fleas, they will take some soft straw, and dip their hinder parts into the water; the Fleas when they feel the cold water, will creep up toward their heads, and then they put their heads under water, and the Fleas will leap into the straw, the Foxes let go the straw, and run away.

CHAP. XLIII.

Of the Unicorn.

AUthors are of divers opinions concerning the *Unicorn*. They doubt whether there be such a creature, some affirm it and some deny it. *Garzias, ab Horto*, Physitian to the Kings *Deputy* in *India*, observed a creature like to the description of an Unicorn. It had a wonderfull Horne, that he would turn somtimes on one side, somtimes on the other; and somtimes he would lift it up, and somtimes let it down. *Ludovicus Vartomannus* saith, that he saw two of them sent to the *Sultan* at *Machæ* out of *Æthiopia*, to *Mahomets* Tomb, they were shut up in Lattises, and were not fierce. The Horns of this creatures are shew'd in many places; At the Monastery of St. *Denys* there is a whole one in a dark vault of the Sanctuary, and the end of it stands in water. The water is given to drink to those that go under that hollow arch; so soon as they have drank that, they suddenly fall into a great sweat. There is one also seen at *Venice*, in St. *Marks* Church, and another at *Rome* covered with a Purple covering. *Aldrovandus* writes that there was a Jew at *Venice* that boasted he had a true

true one, and proved it by a wonderfull example; for he laid a Scorpion and Spider on a Table, and compassed the place in with the *Unicorns* Horn, these creatures were not able to passe out, but were killed either by the shade or the vertue of it. *Cardanus* describes it, *That it is a rare creature as big as a horse, with hair like a weasil, a head like a Stag, that hath one Horn growing on it, 3 Cubits long; it stands in the middle of the forehead, and is right and strait, it is broad at the bottom; it hath a short neck, a thin mane, lying but on one side, with small feet like a Goat*, &c: *Pliny* saith, that it is a most rough creature; and the rest of the body is like to a horse, the head like a Stags, the feet like an Elephants, the taile like a Bores, with one black Horn; sticking out of the middle of the forehead two cubits length; what ever it be, here is cause enough to doubt of it. For first there are many kinds of *Unicorns* described, and we know not whether they be of the same kind. In *India* there be Oxen that have their hoofs undivided, and they have but one Horn if we credit *Pliny*, There are Bulls in *Abnia* if we beleive *Ælian* and *Oppianus*. There were some in the Wood *Hercynia*, if *Cæsar* be to be believed. *Ludovicus Barthema* saith, that he saw in *Zeilam* a City of *Æthiopia*, a kind of Cows that had but one Horn in their forehead, that was but a hand breadth long; and turned backwards. As for the Horns, there is much sophistication in them. There was one found upon the shore of the River *Arula*; in *Helvetia*, nere to *Bruga*: who shall certainly make choice of these for the *Unicorns* Horn. That which *Albertus* saw was a hand breadth and a half thick, ten foot long, without any spirall lines, and like to a Stags Horn? And a Horn so thick and long, seems to appertain to a living creature as great as a great Ship. *Aldrovandus* thinks that the cup which *Alvarez Mendosa* gave to the great Duke of *Hetruria*, which he had from the King of *Narsinga*, was rather made of one of those creatures Horns which are seen in *Basma* and *Macinum*, Countries of *Tartary*, that are as big as Elephants. The Diameter of that cup was as much as both hands could hardly compasse. He that would read more of the *Unicorn*, let him read *Andreas Marinus*, *Andreas Bacius*, and *Casparus Bartholinus*. I for a conclusion will add somthing, omitted concerning the Mule. The common opinion is that the Mule is barren, and if they do bring forth, it is held for a monstrous thing. Yet in some Countries of *Africa* they are ordinarily with young and do bring them forth, *Varro*. It appears by the Monuments of the *Athenians* that one lived 80, yeares. And they took pleasure in it, when they built a Temple in the Fort, that this old Mule would encourage their Cattel that fell down, with accompanying them, and labouring with them, wherefore they made a decree, that no men that cleansed Corne should drive the Mule from their sieves, *Plin.* Some write they will not kick if they drink Wine. They have an excellent smell. Hence those Mules that are out of the way will return into the way when they smell it, and they easily are infected with the contagious force of the Ayre, and fall sick of the Plague,

Plague, *Aldrovandus, l. 4. de Quadrup.* There is something in them that is death to Mice; for the fume of the hoofe of a Mule will drive them from the house. *Columella* saith, That the pain of their guts is abated by the sight of swimming Ducks. *Cardinal Ponzettus* bids us to inclose one that is infected with the Plague, into the belly of a Mule newly slain: and *Marantha de simplicibus* saith, he must be shut in so long, untill all the heat of the Mule be vanished; and this must be done oft times.

The End of the Seventh Clasis.

OF

OF THE DESCRIPTION OF Naturall VVonders.

The Eighth Clasis.

Wherein are contained the Wonders of Creatures that want blood.

Plin. Histor. Natural. l. 11. c. 2.

THe Nature of things, is no where more totally in any Creature, than in the smallest Creatures: And, *In the contemplation of it, nothing can seem superfluous.*

CHAP. I.

Of Living Creatures without blood, in generall.

TRuly the nature of bloodlesse Creatures seems to be contemptible; and not to be compared in the least, with the shoulders of Elephants that carry Castles, or the necks of Bulls, and their fierce casting up of things into the Ayr; nor to the Manes of Lions: yet is there no where a more remarkable piece of Nature's Workmanship; and Nature is no where total, more than in the least Creatures. *For in great bodies there was a fit place to work in; the matter being ductile; but in these that are so small, and almost as nothing, what reason, what force, what unspeakable perfection is there? where hath Nature placed so many senses in the* Gnat? *where hath she set her*

her eyes? where her smelling? where hath she made that horrid and great Voyce, considering its proportion of body? how hath she cunningly fastned the wings? lengthned the legs? hath disposed a hollow place instead of a belly? and made it thirsty after blood, especially mans blood? but by what art hath she whetted the snout of it to make it penetrate into the skin? And since the smallnesse of it cannot be discerned, in comparison with that is very great, nature hath helped it by a twofold art, that it might be sharp to peirce, and hollow to drink with all. *Plin. l. 11. c. 2. Aristotle* reckons 4, kinds of bloodlesse creatures; The soft, the hard crusty, the shell-wearing, and the insect. The soft kinds want scales, and their skin is not rough, nor with a shell, but soft as it is in Men. They have no bones, no bowels. If there be any, they are like to fishes prickles, except only the Polypus. *Plin. l. 9. c. 28.* Their heads are between their legs, and their bellies, they have no tongues, nature only hath given them somthing that is fleshy, to discern the pleasure of that they eate. But they have a Brain, and they have that is proportionable to that part which is designed by nature for the principality of feeling. Also they are of both sexes. The parts of the males are all more rough, and distinguished with various lines running between, the tayl is sharper, the passage under the throat, comes from the brain to the bottom of the pipe; and the place it is carried to, is like to the teats. It is double that is set above in the females, and reddish little bodies are joyned to it in both sexes. They refuse salt water, they can hardly endure cold, for they are naked, and fearfull because they want blood. Their eggs when they are lay'd increase as Worms do, but they must needs have their vital force from the seed of the male, as fishes have. *Aristot. de generat. l. 3. c. 8.* Of those that are crusty there are two kinds, for they are all either with tails or round. Their taile is evident and stretched forth; the cover of this, as it were, covers the end of their belly, and is so joyned to the lower part of their belly that it shews not at all like a taile; *Scalig. exercit. 245.* Their parts are as the other parts of bloodlesse creatures. Their teeth in their mouths are long and round, covered with a double covering, *Aristot. de part 4, c. 3.* between which such things are placed, as are knit between the teeth of Locusts. They want eylids, but their eyes are placed above their mouth, they are hard, and apt to move inward and outward, and obliquely. They breathe not, but casting water through a hollow pipe they are refreshed. The males have small passages for their genital parts, the females have membranous matrices cut as farr as their intestins, and in them an egge is bred. They copulate after the manner of those creatures that pisse backwards. The female brings forth a red egge covered over with a thin shelly membrane: they are otherwise called *Conchylia*, purple shell fish, that were of old held for great dainties, that they grew into a proverb, to be the widows delights. Nature hath so sported in the variety of them, in so many figures and colours, that it is hard to number them. *Plin. l. 9. c. 33.* to explain the variety of them saith thus: *They are of so many figures, plain, hollow, long, like the half Moon,*

Moon, round cut in half circles, rising in the back, smooth, rugged, dented, streaked, the top wreathed like the Murex, the borders pointed, outward; or folded inward, somtimes distinguished with little lines, hairy, curled, like doggs waved like a comb, a style, lattice wise, or like net work, stretched out obliquely or right forth, close thickned together, opends when men clap their hands, bended backwards like to a Horn. Moreover, in the red Sea they are of a wonderfull greatnesse, also they are found on the tops of the highest Mountains, and they somtimes lye hid in the inward parts of the earth or in stones, *Goropius. Becanus in Aldravandus* saith, he *hath seen some in a flint, that we use to pave the streets with, brought from* Bethum: *there were so many shell-fish all of stone, and shut up entire in their coverings, that you would judge that flint to have been framed with great care and art of them, joyned with some cement. In the fields about the suburbs of* Paris, *that are fruitfull with Corn above, there is underneath a Cave that is under great part of it, where Chariots may passe. I found there a great many shells, like Sea perwinkles, in a delicate order, both twisted and adorned with little knots, and so exact, that there was nothing wanting to their perfection but the living fish. I saw in England a stone cut out of the highest Mountains; that was like a living perch; not the least line was wanting to make it perfect. Insects have incisions either above or beneath, or else on both sides, and though it be bony or fleshy, yet they have somthing that is between both.* The differences of them are many, if you note their place the quality of their body, their quantity, their food, their generation, their motion of their going. As for the place, (we must speak somthing) reddish hairy Worms are bred in Snow; in the fire, Worms called *Pyrausta*; in the Sea water, the insect call'd *Micro-rinchoteros*, or little nose, the Sea-*Scotopendra*, and the gnat. In fresh water there ariseth, *Leeches, Scrophulæ, Strumæ, Cherodes*; in the earth, Worms, and *Juli*; in minerals, not a few. In the stumps of Trees, *Cossi*, and *Teredines*. The Fig-Tree breeds the Worm *Cerastes*; if an Olive Tree be planted where an Oke is digged up, there breed Frogs, and little Worms, in the Service-Tree there are breed red hairy ones; in the bladders of Elms, *Psennes*; in Vines, those that *Tully* calls *Butyri*; in the Spindle-Tree, or as *Theophrastus* calls it, *Tetragonia*, there is yearly bred some Catterpillers that dye so soon as the leaves are wasted. In the apple of a certain shrub call'd *Coccios* there breaks forth a little living creature so soon as the fruit is ripe. There are Worms found in the gnats, that tied to the neck will retain the birth, they must be taken off before delivery can be. In the leaves of Night-shade there is a Worm that is of a green and yellow colour, that hath a Horn in the forehead, as long as ones finger. In the Asphodil Worms breed, that become flies, in the fashion of flowers, for when the stalk fades and withers, they eat the cover they are in and fly out; you shall find no fewer insects observable in living creatures. Mans excrements are known sufficiently, especially when the Sun shines on the excrements of beggerly people. We know that in *Ægypt* Worms are presently bred in Mens legs. In a Carp the first year a black Worm is bred neer his gills. River perches breed as it were 12 pearls, so great as tares;

 and

and each of them hath in it a slender long round worm. Lastly, it is said, that in Bee-hives a worm is bred. As for the parts, Flies have open wings, Beetles have sheath wings; some have their belly joyn'd to their mouth, and the right Intestin revolved from that. Those that leap, have either their hinder legs longer, or else they lean upon their tails bended backwards. As for their generation, some are bred from animals of the same kind; some do generate, but not of their own kind, but only Worms, and those not from living creatures, but from putrefaction of moysture and dryness. Amongst those that couple, the females are commonly the biggest, the males have no seminal passages; nor do they thrust in their member into the females, but the females into them by the lower part.

This I have spoken more largely of bloodlesse creatures, because I know that their external habit hath made them contemptible. Wherefore the mind of man ought to be rouzed up contemplate their worth, by the majesty of the internal nature of them, and to verse it self therein.

CHAP. II.

Concerning Bees.

IN *Lithuania* and *Podolia* there is an infinite company of *Bees*, that the hollow parts of the earth that are dry, are filled with honey: *Olaus Magnus* saith, That great Bears have fallen in and been drown'd. The fruitfulnesse of the fields causeth the plenty of them, the sweet smells, the abundance of flowers, the pleasant taste of them.

Adde to this the mighty Woods of Pine-Trees, which are alwales green, and keep the place warm, with high tops, and large boughs; in Summer they shade the Bees, and in Winter they hide themselves in the coverings of the Pines, *Leo. Nolin. in Problem.* *Solinus* saith, That *Scotland* breeds none; but I know that is false: for I saw some in my Host's Garden at St. *Andrews*; and sometimes I have been much delighted with them. In *Africa* they are rare. If you ask the cause, you shall find it is the want of those things that I spake of in *Sarmatia*. In some parts of *Egypt*, if you bury a Bull to his horns, *Bees* in time will breed from it, from its putrefaction. If therefore you would breed *Bees* so, read *Florentinus*. He bids you, as *Cæsar Constantinus* relates, make you a house ten cubits high, and ten cubits broad, and the other sides equal thereunto; let there be but one place of entring, and four windows, on each side one; drive an Ox that is fleshy and 30 moneths old into this place, he must be very fat; cause many young men to stand round about him, and beat him sorely, and kill him with Clubs, breaking his very horns and bones; yet they must take great heed that no blood follow. For the Bees are not bred of blood: and when they strike him first, let not them run violently upon

on him; Then presently stop all passages in the Ox, with clean pure napkins, dipt in pitch, as the mouth, the nostrills, the eyes, and all parts Nature hath made for Evacuation. Then laying a great deal of Thyme under, and the Ox upon it, let them come forth of the house, and presently shut the door and the windows, and daub them with Lime, that neither Ayr nor wind may enter or come forth; but the third week you must let the house wide open, and let in the light and the cold Ayr, unlesse it be on that side where the wind blowes very strong. For if it fall so out, you must stop that side the wind blowes strongly on, and daub it with clay. The eleventh day after, when you open it, you shall find Bees hanging abundantly in clusters together; and of the Ox that is left you shall find nothing but his horns, his bones, and his hair. They say the Kings are bred of his brain, the common Bees of his flesh; Also the King is bred of the spinall marrow; but it is said, that those which breed of the brain, are the best, for strength beauty and magnitude. From hence you shall know the first change and transformation of flesh into living Creatures, and as it were a conception, and generation, thus: For, opening the place, small white creatures, like to one another, and not yet perfect, nor yet living, will appear in great numbers about the Ox, all immoveable, but augmenting by degrees. You shall see also the excrescence of their wings, yet unjoynted; and you shall see Bees in their proper colour, gathering together and flying about the King, but with small short wings, trembling for want of using to fly, and the weaknesse of their limbs. They will come continually, fly ing violently against the windows, for the desire of light. But it is best to open and shut the windows every other day, as we said. For it is to be feared, that they will change the nature of Bees, or else be stifled for want of Ayr. If a wing of them, or the sting be pull'd off, it can never grow again; for because this is fastned to the Intestine, it pulls that out also, and so they die. They have a King, who is so much honoured by them, that he never goes forth, but they all attend him; if he err in flying, they are quick-sented to find him out; and when he cannot fly, they carry him, *Aristotle*. They are so chaste, that they will sting those that smell of copulation, and they stall themselves in Virgins Sepulchres, *Plutarch*. For *Augustinus*, whose sirname was *Gallus*, saith, That at *Verona* they crept into the Sepulchre of two sisters that were Virgins; they were the Daughters of that famous Lawyer, *Bartholomæus Vitalis*, they went in by the chinks of the wall next an Orchard, they made abundance of combs in the dead bodies of them both. The matter two years after their burial was made manifest, by the fall of thunder, without any hurt to the carcases of the Bees and combs. There were some found also in the Tomb of *Hippocrates*, and it is constantly avouched, that the honey of them anointed on little blisters of Childrens mouths by the Sepulchre, did miraculously cure them. The Inhabitants of the Country of *Cuma* do feed on them. If thou wouldst have thy beard grow quickly, anoint thy chin with the ashes of burnt Bees, and Mice dung, *Aldrovandus*.

CHAP.

CHAP. III.

Of Spiders.

IN the new world, as *Oviedus*, *l.* 15. *c.* 3, relates, there are green Spiders, and the Web is of a Golden colour, as good as silk. In *Cuma* they weave it so strong that it will not break, but holds like silk. In *Hispaniola* they are as big as hand-balls, and as hard as nuts. In *Brasil* there is a very great kind of them, like to a Crab, yet a fly takes him and draws him into his hold, contrary to what is used in *Europe*. *Cardan. l. 9. subtil.* saith, that in the *West-Indies* they are as big as Sparrows. Some write they couple backwards, and do scatter eggs in their Webs, for they leap and so lay them. They are perfected in 28, days. *Scaliger*, *l.* 1. *de. causis plant.* saith, that they breed of filth. *When I somtime observed Spiders egs, I found them to be, many small ones, black and blew with little spots, divided and parted one from the other: they are soft, and clammy, and if by chance any be lost, the Spider diligently enquires, and she carries them back by fastning them on some thing from within, and with her beck also. I have seen also innumerable young ones come forth of one egg, so small that they could hardly be discerned; yet so soon as they were come forth of the egg, they spun such fine webs that nothing can be more wonderfull. Also I have observed under the belly of a Spider that was taken, a mighty heap of eggs, so small as Atoms; they were white, and crushed with the finger, they gave a crack.* They have a great faculty of feeling; for sitting in the middle of their Web, they feel a fly that toucheth it in the most remote part. Hence *Antonius Ludovicus. l.* 1. *Problem. s.* 5. *Problem* 13. saith, that for that cause they lye in the middle of their Nets. And being that the lines are equall from the Centre, she sitting in the middle, and holding with her feet the beginnings of the threds she spun, she can easily know from all parts. They make very fine nets, and in them gnats and other little weak creatures are insnared. This is made from somthing they have without them, or from their hard skin, which being by degrees kembed and drawn like to a thred, they diminish, and they eat up their threds; or else naturally they have a fruitfullnesse of drawing threds; or else at a set time, the nature of their belly is corrupted, like an excrement. The woof is fastned within, and from that those fine lengths are drawn forth: we see the first to happen in Silk Worms, for they draw silken threds out of their own excrements, and they change their lives for a silken case, their proper substance being turn'd into a Fleece, *Antonius Ludovicus*, *l.* 1. *s.* 5. *problem.* 52. *And Franciscus Bonzella Cardinal. l.* 3. *c.* 14. *de Venenis* writes, that such as are bitten by a house Spider, fall ill of a Priapisme. And *Plin. l.* 24. *c.* 9. saith that the same things happen when one is bitt by the Spider *Phalangium*. The nature of the poyson is said to be the cause of it. For though it penetrate easily; yet the terrestiall part of it causeth flatulent humours, which being driven to the lower parts, cause erection. When they hurt the young

young Lizzards, first they wrap them in their Webs, then they bite their lips, which is a sight fit for a Theatre, when it happens, *Plin. l.* 11. *c.* 24. Also the same Authour, *l.* 10. *c.* 74, saith, that the Spider doth ballance himself, to come down upon the head of a Serpent that lyeth under the shade of a Tree, and he so fiercely bites the Serpents brain, that he makes him to hisse, yet he can neither break the thred that hangs from aloft, nor yet run away; and there is no end of it, till he kill him. When houses are like to fall, the Spiders first fall down with their Webs. *Plin. l.* 8. *c.* 28. When the Rivers are like to rise, they rayse their nets higher; and because they weave not in fair weather; but in foule, many Spiders foreshew rayn, *Plin. l.* 11. *c.* 24. The *Thebans*, as *Pausanias* witnesseth, in *Bœotica*, were ignorant of that; For when the Spiders had woven white Webs about the doors of the Temple of the Goddesse *Ceres*, about that time that the battle was fought at *Leuctra*, when the *Macedonians* assaulted them, the Spiders spun all black Webs, which was a sign that signified somthing far different from the former.

CHAP. IV.

Of the Silk-Worm.

ZOnoras saith, that the *Italians* knew not the *Silk-worm* before the time of *Justinian*: in his dayes it was wittily found out and brought thither, *Procopius*. He adds, that two Monks brought *Silk-worm* eggs from *India* to *Constantinople*, and putting them into dung transformed them into Worms. Now *Sera* whence they came, is a City in the farthest parts of *Persia*, wherein there is made so much Silk work, that ten thousand pounds of Silk are daily given out to work-folks. Also in *Taprobana* Silk is gathered from Trees without any labour, as many Navigations have discovered. Nature hath shew'd so much art in this Insect, that it is impossible to comprehend it all. Much is written, and much more may be. First, it is a Worm, shut up in a bladder, it dies without any forme; at length a winged butterfly comes forth of the case: wherfore a creeping Insect is changed into a flye by a medium that is vegetable void of sense and motion, by a strange metamorphosis. The little Worm first shut out, seeks abundance of nourishment, and eating greedily what she is able, by often sitting up her head, striving as it were with a Lethargy, she sleeps at length 3, or 2, days, and in the mean while casting her skin, she falls to her wonted diet again, when she hath fed 4, times, slept 4, times, and 4, times changed her Coat; she will eat no more, but climbs up on high upon the branches, and twigs, having discharged her belly as it should, she begins to spin some rudiments of her Silken work upon the boughs, but in disordered turnings, then she shuts her self into a transparent case, and thrusts forth the fruit of her indefatigable labour, from the centre to the circumference, white Wool

Wooll, yellow, and green, of an ovall figure, striving as it were with her fellows, in 9 dayes she ends her task, and dyes within it. From this case laid under ground, a horned Butterfly comes forth after ten dayes, but being neither mindfull of its wings nor food, being about to repair the losse of its short life by its fruitfulnesse of young ones, put into a soft fleece for 3. dayes together, but seldom for 4. dayes, is the male coupled to the female, and dies; and shortly after the female widow, leaving behind her about a hundred seeds like Millet seeds, she dyeth also. But because *Andreas Libavius*, a most deserving Physitian, hath most accurately described this from his own observation, I thought fit to joyn his historicall observation, as an Appendix to the end of this *Classis*, for the benefit of those that search the Secrets of Nature.

CHAP. V.

Of the Spanish Fly, *and the* Glo-worm.

C*Antharides* are bred from a Worm in a spungy substance, especially of the sweet-brier, but most fruitfully in the Ash. If they breed in Fig-trees, it is likely that the Tree will die, *Plin, l.29.* Their venom is most tart. A Physitian call'd out of *Egypt*, kill'd *Cossinus a Roman* Knight, whom *Nero* loved, with *Cantharides* in drink, when he was sick of a Tetter, which was a peculiar disease in *Egypt*, *Plin. l. 1. c.4.* The same thing happened to an Abbot from a whore, *Paræus l. 20. c. 28.* A *Glo-worm* hath a belly with roundles, divided with many segments, in the end whereof there are two spots very light like to fire, tending toward a kind of sky-colour. Then is she most conspicuous, when her belly is pressed, and that transparent humour goes to the end of her belly, and her brest against the light shines like to fire, *Aldrovand. de Insect. l.4. c.8.* There is something spoken of this, in the Second *Classis*. *Adrianus Junius*, when he was in the Country of *Bononia*, drew the liquor of them upon Papers that shined like Stars: what is writ with that in the day, may be read in the night. Many have shewed the way to compound it. *Baptista Porta* doth it thus: *we did cut their tails from their bodies, taking care that nothing should mingle with the shining parts; we ground it on a* Porphyr *stone, and 15 dayes or longer we buried it in dung, in a glasse vessel, and it is best that these parts should not touch the sides, but hang in it: for these dayes being over, the glasse being put into a hot oven, or a bath of hot water, and sitted, you may by degrees receive that clear distilled liquor in a receiver underneath, and so putting it into a fine Crystall glasse, you may hang this water that causeth light in your private Chamber; and it will so enlighten the Ayr, that you may read great letters. Albertus de sensu et sensato* shews, why their light cannot be extinguished by water: *For their light cannot be said to be of a cœlestiall body, because a cœlestiall nature comes not into composition of bodies generative and corruptible: But the determination of this question and the like, is fetched from what we determined in our second* de Anima; *where we shew, That the nature of perspicuity is not proper to any Element, but it is common to many, and is participated by them* per prius et posterius, *which is the more pure, the farther it is from darknesse; and this is so, by how much it is more like to the nature of superiour bodies; and the proper act of this is light, which hath to do in that nature. Now this falls out in it, as often as the parts of it are very noble and clear: and therefore all such things do shine. Now this composition sometime is in the whole body; sometimes not in the whole, but in some externall parts: the cause whereof is, that when such a nature is from the Elements that are light; it proceeds more from the internall parts to the external, because such things will swim. And so it is found in the heads, and fins, and bones of some Fish, and in the shells of some eggs, because such parts are lesse rosted, and heat hath wrought in them much nature of perspicuous bodies condensed: Sometimes this heat acts in the externall parts of some things, when it exhales from them, and that which is subtile brings with it much perspicuity; so the parts of Okes corrupted do shine. But all those things that have but a weak light, are hid when a clearer light appears.*

CHAP. VI.

Of the Grashopper.

I*Sidore* writes, that *Grashoppers* breed of Cuccow-spit. *Plutarch in Sympos.* saith, Out of the Earth. *Baldangelus* saith, they breed out of the earth not tilled, that looks Eastward toward the Sun-rising; and that white ones were dug up under Okes, but their form was, as the rest were. *Aristotle l.5. hist. c.30.* saith, they breed by copulation. *Pliny* sets down the manner: *First, there is a worm bred, then of that* Tettigometra, *or Mother of the* Grashopper, *the shell of it being broken, about the Solstices they fly forth alwaies in the night, being first black and hard; but when he strives to come forth of his* Tettigometra; [You may observe, that *Grashoppers* and *Butterflies* breed alike; for what is in these, at first, a Caterpillar, is in them, first a little worm; and that case, call'd *Chrysalis* or *Aurelia*, for the *Catterpillar*; is call'd *Tettigometra*, for the *Grashopper*, Yet you shall know that they differ: For a rude *Chrysalis* is a lump wherein no parts of the body are distinguished, as we can discern; but in the *Tettigometra* you may see the head, eys, feet, breast, and all the parts, except the wings; it is whitish in colour, and sprinkled with small lines;] *First he gets up a Tree, and sticks to some branch of the Tree; then at the upper end where a cleft is first seen, he comes forth; his whole body is then almost green; shortly, his upper part enclines to Chestnut colour, and that in one day becomes of a black colour; and because his legs and wings are weak at first, he sits upon his cast skin till he can fly.* In *Cephalenia* there is a River where Grashoppers are on one side, but none on the other, *Plin. l. 11. c. 27.* And *Antigonus* writes, that the same thing happeneth in *Dulichium*, an Island of the *Ionian*

Ionian Sea: *Ambrosius Nolanus* writes the same of *Nola*, and the hill *Vesuvius*. In the Country of *Rhegium* they are all mute. In *Locris* beyond the River, they sing; in *Acanthus* also they are mute, *Pliny l.* 12. *c.* 27. If you ask the reason, *Strabo* thinks, that at *Rhegium* the Country is dark and shady; at *Locris* the heat is great; and therefore he thinks, that the dewy skins of their wings are not there extended; but here he thinks they have dry, and, as it were, horny skins. But because they do that when they fly, and when they stand, which the others are thought not to do, the heat is the cause of it: For being hotter by nature, they need more cooling, and move the Ayr the stronger: The others do not need so much, either because they are but of a weak heat, they are not heard to do it, therefore it may be thought they are said not to do it, *Nicolaus Leonicus*.

CHAP. VII.

Of the Crabfish, *and the* Shell-fish *breeding Pearls.*

C*ammarus*, is a River-Crab; in his head, are two little stones: In the full Moon they are seen in figure of a Globe divided into two, *Agricola*. It is said to eat flesh; It will eat the Pike in a net: And *Gesner* writes, That in *Danubius*, when flesh is tyed to their ships, and hang'd down into the water, multitudes of Crabs will hang about it: Some say, that in June they will go forth to feed in the fields, catch Frogs, and feed on grasse. Fed with milk without water, he will live many dayes. *Gesner* kept one alive in water 13 days; put into distilled wine, burnt, he presently growes red, and may be set on the Table alive amongst those that are boyl'd, *Georg. Pictorius*: The Males are easily discerned from the females; For they, where their tail is joyn'd to their body underneath, have four long rods sticking forth, but these have none: Also their tail is rounder, plainer, and thicker. *Leonellus Faventinus* commends the powder of their eyes drank with water of peach leaves, after opening a vein, against a bastard Pleurisie. The powder of them rubb'd on the teeth, cleanseth and whiteneth them. In *India* a *Shell-fish* that breeds Pearl is sometimes found so great, as they report, that in the Island *Borneus* in the Sea, there was one taken, that the meat within it weighed 47 pound; yet methinks it is questionable.

CHAP.

CHAP. VIII.

Of the Snail.

THe *Snails* which *Dioscorides* calls Garden *Snails*, are found in abundance in the Mountains of *Trent*, and they are the best. In Winter they are dug up out of the Earth, and in Gardens, with some iron hooks, near to the roots of herbs, the Earth being dug forth. They are covered with a white shell against the cold, it is like to Gip, so they lye under ground, hid, and afterwards they are more pleasant meat, *Matthiolus*. They have eyes in the top of their horns, and they pull them in when any thing comes near to them, and put their horns into their heads, their heads into their bodies, *Albertus*. They lay white eggs, as great as the Pikes eyes; and in *May* they are found to sit upon them, *Gesner*. *Albertus* saith, they are bred of corruption and clammy dew, and that that dew hardneth into a shell. *Porta* saith the same. *Phytol. l.* 5. *c.* 4. *Pliny l.* 9. *c.* 5. saith, they are bred in Winter. *Fulvius Hirpinus* made Caves of them, in *Tarquinis*, a little before the Warr with great *Pompey*, &c. *Pliny, l.* 9. *c.* 56. In the Island *Scyathos*, the Partridges feed on them; but those that are call'd *Ariones*, deceive them: For going out of their shells, they feed, leaving their empty houses to the Herns and Partridges, *Ælian* l. 10. *c.* 5. *Andreas Fulnerus Gallus* relates, That a Remedy is made of them to multiply hair: *Take* 300 *Snails out of their shells, and boyl them in water, and take them out again, and gather the fat that swims a top, and put that into a glazed vessell, and pour a Sextarius of water upon it; wherein Bay leaves have been boyled with three spoonfulls of oyl, one spoonfull of Honey, Saffron one scruple, and a little* Venice *Soap, and a spoonfull of common Soap moderately stirred; boyl them altogether. With this liquor anoint your hair often, and wash it with a Lye made of the Ashes of burnt Colewort stalks,* (the place is obscure, or corrupted) *and you shall find your hair increase daily.*

CHAP. IX.

Of the Gnat.

IN *Ægypt* there are great store of *Gnats*, whence *Herodotus* calls it *Conopæam*, and *Belonius, observat. l.* 2. *c.* 35, writes that he was so vexed with them the first night, that the next day he seemed to have the Measils. In divers parts of *India*, there are kinds of *Gnats*, whereof some in Summer time especially, when the fields are cleansed, do lye in the Woods, others lye about the shores. At *Myon* a City of *Jonia*, there was a creek of the Sea not very great, which, when *Mæander* a River of that Country running into it, that was very muddy, had stopped the mouth of it with mud, brought along with it,

so that in time it made a Lake, there bred from thence such abundance of *Gnats*, that the people of *Myon*, left their City, and went to *Miletus*. When the Northern people would hinder their biting, they sprinkle a decoction of Wormwood or Nigella on their heads, and the rest of their body, *Olaus*. Yet he makes a difference in their bitings. For they that have their blood pure and not corrupted, bite them they not. They meddle not with fruit before they grow sharp by corruption, and they most delight in sowre things. *Leonh Jathin*. But because they chiefly suck mans blood, they are called the spowts of the blood of Man. It is not proved that they will suck things that are sweet. For the sweeter part of the blood that is most pure is consumed for nourishment, and lyeth inwardly, that which is rawest comes next to the skin, whence it is that Pushes break forth of the body.

CHAP. X.

Of the Urchin, *the* Ephemera, *and the* Catterpillar.

SEa-*Hedge-hogs*, so often as they are tossed with the flowing water, make themselves heavy with ballast, lest they should be tossed too much being light, or carried away with a tempest; and so they stick fast to the Rocks. *Plutarch. l. Utr. Animal.* The parts of the live ones covered with their shell, and armed with their prickles, if they be broken and cast into the Sea, they will come together again, and will know the part that is next to them, and being applyed they will joyne, and unite by a natural sympathy, *Aldrovandus*. As for the *Ephemara*, the River *Hypanis* in *Cimmerius Bosphorus*, under the Solstice produceth little bladders greater than grape stones, out of which flying creatures proceed with four feet. This kind of creature lives till the afternoon, the same day; when the Sun departs it decays, and presently dies when the Sun sets, from hence it hath the name of *Ephemer*, or a creature that lives but one day. *Aldrovand.* As for *Catterpillars*; *Hieracles* testifieth, that if Horses rowle themselves upon them, black and blew spots will arise, their skins will grow hot, their eyes will be distorted, and the cure is to bray vitriol one quarter of a pound, Vinegar half a pound. They feed on pot hearbs; but if a rocket seed be sowed amongst them, they will not touch them. But that those hearbs may breed no noysome creatures, dry all the seeds you mean to sow, in a Tortis shell; or sow mint in many places, especially amongst Coleworts. *Prasocurides*, saith *Cardan*, *are such living Creatures that use to do hurt in Gardens; Men say, that if you bury the panch of a wether with the dung in it, not deep within the earth, in the place where they abound, in two days you shall find them all in heaps in that place; in twice or thrice so doing, you may destroy them all.* Paulus Æginetа writes that herb rocket annoynted with oyle, will preserve men safe from the bitings of Venemous creatures.

CHAP.

CHAP. XI.

Of the Pismire.

IN the Kingdom of *Senega* there are white *Pismires*, and naturally they build low houses. For they carry earth in their mouths, and cement it without lime, you would say that they are like Ovens or little Country houses, *Scaliger*, *exerc.* 367. In the Province of *Mangu*, they are red, and they eat them with Pepper. *Scalig. exerc. 9. 6.* Amongst the *Brachmans*, they are 4, fingers breadth in greatnesse; in new *Spain* they are as big as Beetls. Amongst the *Dardæ*, which is a mighty Nation in the Mountains of *India*, there is said to be a hill of 3000 furlongs in compasse, there are Gold Mines under it, that Ants as big as Foxes do dig into, *Plin.* I think, as *Strabo* doth, that it is a fable. In *Baia Salvatoris* there is an infinite company of them, they have in their mouths somthing like pinsers, and with that they so crop the Plants, that they dye with their biting of them. *Aldrovand.* In the same *West-Indies* they are called *Comixen*, half-*Pismires*, and half-Worms that creep with a white tail. They eat into the Wood, and do great harm to houses. When they creep up a wall or house, they are covered with earth, a finger thick, and they live under this, *Ovied. in sum. Ind. occid. c.* 52. In *Brasil* when they are bruised they smell like Cedar. Their head is so small that they have no eys in it, but above it there are some additionalls like two hairs coming forth. It is a sign that these are their eys because when these are cut off, they mistake their way. *Albert. tract.* 4. *l.* 6. *c.* 1. When this kind grows old, it comes to have wings. They breed eggs that have Worms in them, in white coverings; these, being exposed to the Sun, breed *Pismires*. *Alb. l.* 2. 6. But in the new World it is otherwise; for when the old one is dead, innumerable Worms breed from the body of it, and they living after a wonderfull fashion, come forth at last out of their subterraneal habitations in a wonderfull manner; Their Ant-hills is made wonderfull artificially, no City is made more curiously. *Aldrovand. Lud.* describes what he saw, thus. *It seemed like a City with four square sides, four foot almost in length, and above a fooot broad, and the Ants like Pismires ran up and down about their businesse in it, as if they had been Citizens, the sides and angles were drawn directly, in the length of the City there was a way in the middle, a fingers breadth and depth, this was cut crosse with* 3, *other ways a fingers breadth and depth as the former, very directly. In the outmost corners of these ways, their eggs were layd together as in narrow turnings of the streets. On the other part of the City were dens fill'd with Corn, that they abounded so far as the very ways. All the paths were most clean. Lastly in the middle of the length of the City, there was one gate right against the West.*

CHAP.

CHAP. XII.

Of the Horsleech, *and* Hippocampus.

SYrabo writes, That in a River of *Mauritania*, *Horsleeches* breed seven cubits great: Their throat is hollow, that they breathe through; in all of them there is a little hole in the middle; and from the Mouth to the Belly, there is but one continued passage. In putrid Feavers they are of great use, for being applyed to the veins of the fundament, and setting on a cupping glasse, that the orifices of the veins may appear, they help much to ease the pains of the head, and to assist concoction. Some have drunk them down in drink, saith *Galen*: but the smell of Wiglice will drive them forth. The *Hippocampus* or Sea-horse is a fish not to be eaten, of a singular form; for it hath a head like a horse, and a snowt and a Mane; the rest of the body is rough with grisly indentures. On the back, it hath a tail with a fin, that is four square and pliable. It is in length a span; being taken, it shortly dyes; and when it is fresh, it shines in the night.

CHAP. XIII.

Of the Locust, *that is an Insect.*

ABout *Brundusium* there is an infinite company of *Locusts*. In the Island *Lemnos*, there is a certain measure set for men that shall kill them, and they must bring it to the Magistrate. In *Cyrene* thrice a yeer they are to be killed; and he that refuseth, is punished for his default, *Plin.* Amongst the *Nigretæ* every 3. years there are such abundance, that they shadow the skie at least 12 miles. In *Hispaniola* they want wings, *Aloysius Cadamustus*. *Vincentius* reports, that a woman bred up one; when it grew up, it was found to be with young ones of it self. *Anno* 852, when they wasted *France* 20 miles in one day, they went as it were in Troops, and pitched their Tents upon the earth. The leaders with a few more went before the whole Army a dayes journey, as if they went to take up quarters, the next day at the same hour they all arrived. They did not march till Sunrising; when the Sun arose, they marched by bands. In the sixth year of the Emperour *Argyropolus*, the Locusts did so much mischief in the Provinces of the East, that the Inhabitants were forced to sell their Children, and to passe away into *Thrace*. The wind afterwards cast them into *Hellespont*, but the next year they revived again; and having spoyled the Provinces three years, they perished at *Pergamus*, *Cedrenus*.

CHAP.

CHAP. XIV.

Of the Sea-Hare, *the* Lobster, *with his shell, and the* Calamarie.

THe *Sea-Hare* hath a body all white, you would think it to be a little box, or congealed flegme. It is seldom taken but in great heat of weather; for then all things are troubled by the extream heat, even those things that lye at the bottom of the Sea. And though very few water-Creatures are found to be venomous, because they dwell in moysture, which for the general is contrary to venome; and some creatures contain their venome in some part onely; as the Spider-fish in its prickles, the Sea-Ray in the *radius*, yet the Hare is poyson all over. *Titus* the Emperour was reported to be poyson'd with this by his Brother *Domitian*. For when the Oracle was consulted concerning the manner of his death; The answer was, He should perish as *Ulysses* did, by the Sea. Now *Ulysses* was killed by the sting of the *Ray*. They that die by the venom of it, will be so many dayes in dying, as the *Hare* lived, *Licinius Macer*, *in Pliny*, *l.* 31. *c.* 2. *Lobsters* will not breed in the Sea *Euripus*, if we credit *Aristotle hist.* 9. *c.* 37. but in the *Indian* Sea, they are 4 cubits long, *Pliny l.* 9. *c.* 3. Concerning the *Calamaries*, *Pliny* writes out of *Trebius Niger*, that they fly sometimes in such multitudes, that they will drown Ships. But *Albertus l.* 24. *de animal.* saith, That in *Sexus* a River of *Mauritania*, a *Calamarie* is five cubits long, and near the Sea he will fly like an arrow. *Rondeletius* thinks, that this is nothing incredible, when as they swim many together, holding one upon the other, and therefore many are taken together.

CHAP. XV.

Of Pearls.

PEarls are in some Shell-fish like the upper crust; in others like to the Off-spring; in some like hail. There are many in them, and of great weight. In a bosom of the Sea of the New World, there are some as big as a Bean; in the Island *Solon*, bigger than Turtles Eggs. *Martyr* writes, he took an Oyster there, that the meat of it weighed above 47 pounds. The King of the Island *Eubagna*, had one so big as a Wallnut, it weighed 31. caracts, and it was sold for 1200 pieces of Castile. *Gonzalvus Oviedus* saith, that one was sold at *Panama*, that weighed 26 caracts, it was round, and as big as the knob of a Pillar.

It is said that neere the Island *Borneo*, there was one as great a Goose egge; and so round, that lay'd on a Table, it will hardly stay in one place. *Peter Martyr*, *Decad* 1. *l.* 8. saith, *That in his presence, when he was invited to dine with the famous Duke of* Medina Sidonia, *at* Bætica,

Bætica, *they brought one to sell unto him, that weighed above a hundred ounces* Heaps are cast up of shells in Summer, some of them have Pearls in them that are ready, others not yet perfect, out of a River that runs by the Village of *Hussin* in *Bohemia*; These they give their bucks to devoure, then they gather up purer, being cleansed in their Bellies, *Gesner*. Five or six are found in one. *Vesputius* saith he found 130, in some *Indian* Oysters. Somtimes some small ones are found behind, like to small kernells. But the question is how these are bred. Some think they are bred of the dewy ayre; but this opinion seems to be false. For some lye in the bottom of the deepest waters, and some are black, some yellow, some green, some blew. *Oviedus, hist. Ind. l. 9. c. 8.* But they say that the white ones are bred of pure dew, the pale ones of that which is troubled. *Androstenes* in *Athenæus* saith that as kernells are bred in hogs, so Pearls breed in shell-fish. *Juba*, as *Pliny* saith, subscribes to this. The *Indians*, that inhabit the Island *Cabagna*, say, they breed as eggs do in them. For the greater of them are next the orifice, and are first thrust forth, but in the more inward parts of the Matrix, the lesser Pearls lye hid. *Rondeletius* and *Alexander Benedictus* compare their originall to that of stones in some greater living creatures; *we saw*, saith he, *stones voided forth of ones bladder as big as a hens egge, over which a clammy matter grew by degrees covering them, like to a crust of divers colours somtimes, and they were hardned by a fiery heat, and so they are said to increase by little and little. Pearls in shell-fish are reported to grow the same way, and the Jewellers can discover by a turning instrument divers coats in them, as we see in Onions. And* Rondeletius saith, *he thinks that Pearls grow the same manner in shell-fish, as kernells do in hogs, and the stone in the Reins and the Bladder. The yeare wee writ this, there was one died that had a Stone in his Reins, that had so many partitions as there were branches of small Veins in his Reins. The little stone with these partitions, was like the outmost knob of a round white marble, or like a great Pearl for its figure and brightnesse, I think it was compacted of a vitreous flegme. Therefore it is no wonder if in Oysters and shell-fish, when they grow old, Pearls are to be found. They may also be dissolved, the Chymists shew how.* Cardanus saith, *you must first wash them being entire, and strain the juyce of Lemmons twice or thrice; then put them in, and set them in the Sun; in five or six days they will dissolve.*

CHAP. XVI.

Of Flyes.

IN *Cyrene* there are found many kinds of *Flyes*, distinguished by their forms and colours. Some have broad foreheads, like to Weasils, others are like to Vipers. They say that in *Sicilie* and *Italy* they bite so sharply, that they will kill whom they bite. At *Toledo* in the shambles somtimes one *Flye* will appeare for a whole yeare, that is notable for its whiteneſse. *Rhodigin. l. 17. lect. antiq. c. 11.* In *Hispaniola*

Hispaniola, they are green and painted, especially in the City of St. *Domingo*; they are as great as Wasps, and dig the earth with their feet, to make themselves houses under ground. *Strabo* saith, the Spaniards have a flye peculiar to them, in great numbers, and it alwaies comes with the Plague; that in *Cantrabia* the Romans appointed some, to catch these *Flyes*, and gave them a set reward for it, by number. In *Carina* a Mountain of *Crete*, that is 9, miles about, there are none, *Plin. l. 21. c. 14.* Nor was there ever any seen at *Rome* in *Hercules* Temple, nor yet in the Island *Paphos* in *Venus* Temple, *Apollonius*. Lasty *Emma* the wife of the Duke of lower *Saxony* promised a fruitfull pasture ground to the Church of *Breine*, not far from the City, that had this prærogative, that no Flyes should molest the Cattel there, *Crantzius, l. 4. Saxon. l. 29.* The *Hebrews*, saith *Tostatus*, invent old wives tales concerning them, for they say that *David* inquired of God why he made Fools, Spiders, Flyes, with other things that seeme not only to be superfluous, but dangerous; and God promised to make it appeare to *David* that these three things were profitable for some things. For foolishnesse, it was manifest; for unlesse he himself had counterfeited the fool's part before King *Achis*, he had been taken captive, and perhaps perished. And the *Flye* was usefull, when he descended from the hill *Hachilla* into *Sauls* camp, when all were a sleep, and took away *Sauls* spear; for then he set his feet between *Abner* his feet who lay about *Saul*, and when he feared least he should be taken, if he should violently draw out his foot, God sent a *Flye* who bit *Abners* legs, and so *Abner* gave way, and yet did not wake *Abner*, so *David* escaped. Lastly the Spider did him good service, because she hanged her Web on the mouth of the Cave, wherein *David* hid himself, when *Saul* searched after him. To drive them away many men have invented divers means. If a peice of an Onyon be laid upon flesh, some think the Flyes will not come at it; *Miraldus cent. 7. Aphor. 72.* saith, they will not come into a house, if a Wolfs head be hanged up in it. *Dioscorid, l. 4. c. 3.* saith that the fume of Loostrife will drive them away. *Plin. l. 23. c. 8.* saith that white Hellebour bruised with milk, and sprinkled, will drive them away. Those Flyes that live on the branches of *Napellus*, are good against any venemous bitings, if we credit *Scaliger Exerc. 85.*

CHAP. XVII.

Of the Boat-fish.

BEllonius gives an exact description of the *Boat-fish*; *The shell of it seems to consist of 3. pieces, (namely the Keel and the sides, and yet it is but one entire piece) the side-pieces whereof seem to be joyn'd on both sides as to the Keel. It is commonly as great as we can clasp in both hands, and as broad as the space between the thumb and the forefinger: but they all in thicknesse do not exceed a piece of parchment, and with ridges drawn to the borders, they are plaited with indentures, ending in a round form; The hole*

 by

by which the Boat-fish is nourished, is very great at the place he comes forth of his shell; This is very brittle, milk white, shining, polished, altogether representing the form of a round ship; for it swims on the top of the Sea, arising from the bottom, and the shell comes the bottom upwards, that it may ascend the better, and sail with an empty Boat; and when she is come above the water, then she turns her shell. Moreover, there is a membrane that lyes between the fore-legs of the Boat-fish, as there is between the toes of water-fowl; but this is more thin, like a cobweb, but strong; and by that she sails, when the wind blowes; the many tufts she hath on both sides, she useth for rudders; and when she is afraid, then she presently sinks her shell, full of Sea water. Farther, she hath a Parrots bill, and she goes with her tufts as the Polypus *doth, and after the same manner she conceives in hollow partitions.*

CHAP. XVIII.

Of Oysters *and* Muscles.

THough Oysters love sweet waters, yet *Pliny* reports that they are found in stony places; but *Aristotle* saith, that though they live in water, and cannot live without it, yet they take in no moysture nor Ayre. When in the time of the Warr with *Mithridates*, the earth parted at *Apumæa* a City of *Phrygia*, Rivers did suddenly appeare, and not only sweet but salt waters brake out of the bowels of the earth, (though the Sea were farr distant) so that they filled all that Coast with Oysters. *Athen. l.* 8. The Oysters are of divers colours. In *Spain* they are red, in *Sclavonie* brown, in the red Sea they are so distinguished with flaming Circles, that by mixture of divers colours it is like the Rainbow. *Ælian. l.* 10. *c.* 13. At the beginning of Summer they are great and full of milk. At *Constantinople* they cast this wheith matter into the water, which cleaving to stones, will beget Oysters; *Gillius* writes it, and it is very probable. For, of the decoction of Mushroms powred on the ground, it is certain that Mushroms will grow, the Crabfish doth wonderfully desire the meat of them, but he comes hardly by them because they have a strong shell by nature, wherefore he useth his cunning. For when in places where the wind blows not, he sees them taking pleasure in the Sun, and to open their shells against the Suns beams, he privately casts in a stone, that they cannot shut again, and so he conquers them.

CHAP.

CHAP. XIX.

Of the Butterflye, *and the* Polypus.

THe *Butterflies* couple after *August*, & the male dying after copulation, the female lays egs, and dieth also. How they are preserved in winter, is hardly discovered by any man, except by *Aldrovandus de Insectis*. But he enquired of Country people, and they hold him, that the leaves were great with the *Butterflies* seed; at what time they plowed the ground, they were hid in the bowells of it, and fostered by its heat, yet he thinks that they only are preserved, that lye hid in the hollow barks of Trees, but what lyes on leaves is quickned the same yeare. And *Aldrovandus* adds, „ *I saw eggs layd under the leaves of* Chamæficus *out of which about the end of August, little Catterpillars naturally came forth. They were wrapped in a thin down, that the ayre might not hurt them, and these little Catterpillars falling did not fall to the ground, but hung by a small thred like Spiders in the Ayre. when they lay under leaves, they fold them so that the rain cannot hurt them, and lay them up as under a penthouse. I twice observed one Catterpillar, that I took amongst the Coleworts, first to lay yellow eggs, wrapt up also in fine down, and when they were laid she turned into a* Chrysalis, *of the same colours that she was, that is, yellow, green, and black: and that which seemed strange to me, out of those eggs, little flying creatures came forth, that I could hardly see them, such as are wont to be found in the bladders of Elms:* when they are in great abundance they shew contagion of the Ayre. *Anno* 1562, they flew at *Bannais* neere the waters, in such multitudes, that they darkned the course of the River, especially after Sun set; then coming hither about night, they wandred through the Villages as in Battel aray, little differing from Moths. *Cornelius Gemma* testifieth that that was a tempestuous yeare. The *Polypus* in time grows so great, that it is taken for a kind of Whale. In the bowells of them, there is a strange thing like a Turbane, that you would say it had the nature of the Heart, or of the Liver, but it suddenly dissolves and runs away. They exceedingly love the Olive-Tree. For if a bough on which Olives hang, be let down into the Sea and held there, you may catch abundance of them, hanging about the bough. Somtimes they are taken sticking to Figg-Trees growing by the Seaside, and they eat the fruit of them. They also delight wonderfully in Locusts, of which you shall find a cleare Testimony in *Petrus Berchorius*. *I have heard*, saith he, *that some Fishermen in the Sea of* Province, *had set Locusts on the shore to boyle over burning coles, and a* Polypus *smelling the Locust, came forth of the Sea, and coming to the fire would with his foot have taken a Locust forth, but he feared the heat of the fire, and so went back to the Sea, and filled a coat which he had on his head, like a Friers cowle, with water, and went and came so often with it, and cast it on the fire, that he put the fire out; and so taking the Locust, he had carryed it to the Sea, unlesse*

one

one of the Fishermen that saw him, had caught him, and broyl'd him to eat, instead of the Locust.

CHAP. XX.

Of a Lowse, *and a* Flea.

SOme think, that *Lice* are bred of flesh; others, of blood; but both opinions are false: For first they breed in the skin of the head, and we know they abound in the second and third kind of hectick feavers; when as, there, is little flesh; and, here, they are almost consumed. Again in putrid Feavers they breed not; and things bred do confirm their principles. Their colour shews they proceed not from blood. Wherefore some think they breed from putrid matter that is cold and moyst, which abounds in the skin, in places where they cannot be blown away. Experience teacheth, that they will leave those that are dead, either because the blood is cold in the body when the heat is gone; or because the dead body is cold, and they fly from the cold, *Nolanus Problem.* 225. They that eat figs often are thought to be troubled with them. *Nolanus* makes the juice of them to be the cause. For, this increasing in the veins heats the blood, and makes it moyst and frothy; which because it naturally tends to the skin, and retain'd under that it putrefies, it turns to lice. Truly they, that feed on figs, have little knots and warts on their skins. A *Flea* is a small Creature; yet *Africanus* a cunning Artificer, tied one with a gold chain, and it leaped, *Scaliger Exerc.* 59, *and* 326. He most commonly bites under the groins: The tumour begins to grow the fourth day; when it comes to its full growth, its bigger than a Pease, and it is full of Nits; They are killed with the root of wild Buglosse: also with Sage bruised, and mingled with oyl and vinegar; anoint with this against them. The best remedy is Silk-yarn put into the bed, for they will gather together in it. *Franciscus Georgius Venetus*, of *Minoritum*, saith, they will trouble one more in linnen than in woollen. He gives his reason, because they both proceed from the same Northern Fountain; for they are both in *Aries* and *March* bred. But *Aldrovandus* thinks it comes to passe, because linnen is more near to the body than woollen. Wherefore you shall find them hungry in your shirts and sheets; but in your breeches full, where they lay their eggs.

CHAP.

CHAP. XXI.

Of the Beetle *and the* Cuttle.

IN *Chalcida* of *Thracia*, which is next to *Olynthus*, there is a pretty large ground, called *Cantharoletron*. When any living Creature comes thither, it abhors it, and departs, yet safely; onely the *Beetle*, but going about it, dyeth for hunger, *Arist. in admirand.* The female Beetle is never bred; but the male, when he hath made a round ball of Ox dung, rolls it with his face backwards, & begets her by sending in his seed, *Clem. Alex. l.* 5. *strom.* Yet *Aldrovandus* saith, That Crabs are begotten by Copulation: for he found, that in *May*, in two hours space, the female produced above 40 little white worms, like to Weevells. They were small Caterpillars coming forth like Silk-worms, which in five hours began to weave balls of very fine thred white, as big as Pompions seed without the hull, *l.* 4. *de Insectis.* *Ruellius* saith, That the New Moon is known by their breeding, *l.* 2. *de stirp. c.* 150. *For* (saith he) *they roll little balls of Ox dung from East to West, and make them as round as a Globe, which they bury in a hole in the ground* 28 *dayes, and conceal it so long, till the Moon runs through the Zodiack, and returns to its Conjunction and disappears; then opening the ball that shews the conjunction of the Lights, they let forth the young one, nor hath it any other way of breeding.* Cut into two, they will live; but the smell of Roses kills them. The *Cuttles* lay eggs like to black Myrtil berries. They stick together like a bunch of grapes, and cannot be separated: For the male casts some humour upon them, the clamminesse whereof holds them together. They breed all the year, and they continue 15 days to lay eggs, *Aristot. histor.* 5. *c.* 12. When she knows that cunning Fishers fish for her, she casts forth her ink, and being environed with that, the Fishers cannot see her: she hunts small fish with her promuscides: Whence *Oppianus* writes;

The cunning Cuttle *when she hunts her prey,*
With slender branches from her soft head springing,
Like to fine cords, small Fish without delay
She takes, they hold like hooks, when as they clinging,
Lye on the sand, she with her tail makes way.

Anaxilaus in *Pliny* saith, That the ink of her is so strong, that burnt in a lamp, it will make those that stand by, look like blackamores, the first light being taken away.

CHAP.

CHAP. XXII.

Of the Scorpion.

CEdrenus saith, that in the desarts of the *Brachmans* there are Scorpions of two cubits. In the place where the *Turks* sell Christians, *Nicolaus à Nicolais*, saw some that were yellow, as long as a mans finger. In *Ægypt* they have wings, and two stings. *Ælian. l.* 16. *c.* 42. In *Scythia*, if they sting Man or Beast they kill them. Also hogs, though they feel not other venemous bitings, yet dye of these, chiefly if they be black; yet each of them dies suddenly, if he come at the water. *Aristot. l.* 8. *c.* 29. In the antient habitations of the *Scaligers*, that are in the coasts of the Alps by *Noricum*; they are all the Country over, without doing hurt; and they are in such multitudes that you can remove no stone, but you shall find one under it. *Scalig. Exerc.* 189. In barks of Trees also, they breed without a tayle. They will turn themselves so fast in a circle, as if they were moved with a paire of Compasses. *Exerc.* 196. In the Country that lyes next to those that feed on Locusts, such abundance of them bred once of immoderate rayn, that the inhabitants were so stung they were forced to leave their Country; *Diodor. Sicul. l.* 3. *c.* 3. Some say that Scorpions devoure their young ones, leaving only one that is most subtile, *Pliny*, This sits fast within the thighs of its dam, and is free from the biting and tail of it, and this revengeth the death of the rest. *Pliny. l.* 11. *c.* 25. *Aristotle* thinks the contrary, *l.* 5. *c.* 26. His sting is most dangerous in a dry Country, and when the Dogg-Starr is up. First the place begins to be inflamed, waxing hard and very red. Somtimes it is very hot, somtimes very cold, sweat follows, shaking and trembling, the outward parts are cold, the groins swell, they break wind backwards, the hairs stand an end, the limbs are pale, *Cardan. l.* 1. *de. venen. c.* 23. Many remedies are invented; Those that live in *Africa* going to sleep, annoynt their beds, and their feet with Garlick. *Strabo*, and *Alexandrinus*, saith *Jovianus Pontanus* doth testify, that one was cured presently by drinking beaten Frankinsence, wherein the picture of the Scorpion was engraven. Also its sting loseth the force, if it touch Bezar Stone. *Jacob Hollerius, l.* 1. *c.* 1. *de morbis internis*, writes, that by the frequent smelling of an herb of *Brasil*, an *Italian* had a Scorpion that bred in his brain: and *Albertus* saith that *Avicenna* had a friend that could of rotten wood make Scorpions when he pleased; and he adds, that from them others did breed.

CHAP.

CHAP. XXIII.

Of Worms *in* Wood, *and the* Tarantula.

THe *Teredo* grows in Wood, and there especially he feeds. And though they are bred in many Trees, except the Oke and the Tyle-Tree, yet there are other Trees that they breed not in. For *Theophrastus* and *Pliny* write, that the Firr-Tree, the bark being taken off of the branches, will remaine in water without any hurt, *That was apparent*, saith *Theophrastus in* Phneum *of* Arcadia, *where the ground was narrow into a Lake, there were bridges made with firr; when the water swelled higher, there were other planks laid one upon another: at last all that stopped being thrust forth, the whole frame was borne away, and was found uncorrupted, so that this was found out by chance. Vincentius ex authore libri de Natura rerum*, sets it down for a miracle, that Box and white Thorn which are the hardest Wood will breed Worms: But the nut of *Æubœa* will never putrefie. Lastly in *Tylus* an Island of *Arabia*, there is Wood that will never corrupt in the water: for it hath been observed to have lasted 200, yeares in the water uncorrupted. The *Phrygians*, if we will credit *Rhodiginus*, made their dainties of white fat Worms with black heads, that bred from rotten Wood, called *Xylophagi*. *Ælian.* writes that the King of the *Indies* used for his second course, a certain Worm breeding in Plants, and it was broiled at the fire. Lastly in an Island call'd *Talacha*, there are Worms like to those, that breed in rotten Wood, and are the chiefest dish of the Table, *Johannes Mandevil. Tarantulæ* are a kind of Spiders from the City *Tarentum*. They are harmlesse to look upon, but when they bite they cause divers symptoms; For those that are stung with the *Tarantula*; some alwaies sing, some laugh, some cry, some cry out: for being infected with black Choler, according as their temper is, they have all these symptoms.

CHAP. XXIV.

Of Worms.

Article 1. *Of* Worms *in Brute Beasts.*

ROttennesse is the mother of *worms*, which whence it proceeds, is known by the generall principles of naturall Philosophy. Therefore because in *Guiney* there are great putrefactions, by the continual distemper of the Ayr, there are found abundance of worms. Hence it appears, that a hot and moyst distemper is fit to breed them; that in Summer Moneths, and when the blasts are warm, Gardens commonly abound with Snails, and flesh with Worms: They are found in Cattel, Plants, and in men. *Anno* 1562, There was a cruel murrain

murrain for Cattle, worms breeding about the region of their Liver, *Cornelius Gemma.* A worm sticks to the forked hoofs of sheep and Rams, which unlesse it be taken out when you eat the meat, it causeth loathing and pain of the stomach. The Mullet fish breeds but onely thrice in its life-time, and is barren all the rest of the time. For in the matrix of it little Worms breed, that devour the seed. In others, some small ones breed, that hinder procreation.

Artic. 2. *Of* Worms *in Men.*

WOrms are found in Men. For sometimes the active cause is sufficient, and there is matter enough in their bodies; and many examples are found every where in Authors, that confirm this. *Anno* 1549, There were many men about the River *Thaysa*, in whose bodies there were found Creatures call'd *Lutræ*, and Lizzards. *Wierus* saw a Country man that voided a Worm 8 foot long, it had a mouth and head like to a Duck, *l.*3.*c.*15.*de præstig. Dæmon.* A Maid at *Lovain* (saith *Cornelius Gemma*) voided many prodigious creatures, amongst the rest a living creature a foot and half long, thicker than a mans thumb, like to an Eagle, but that the tail of it was hairy. A Maid (saith *Dodonæus*) cast forth some like to Caterpillars, with many feet, and they were alive. *Hollerius l.*1. saith, he saw a Worm that bred in a mans brain. *Beniventus c.* 100, *exemp. medic.* writes, That he had a friend that was troubled with great pain in his head, raving, darknesse of sight, and other ill symptomes; at last he cast forth a Worm out of his right nostrill, longer than his hand; when that was gone, all the pain presently ceased. *Theophrast. hist. Plant. l.* 9. *c. ult.* writes thus of *Worms* in the belly; *Some people have belly worms naturally; for the* Egyptians, Arabians, Armenians, Syrians, Cilicians, *are in part troubled with them, but the* Thracians *and* Phrygians *have none.* Amongst the *Greeks*, we know that the *Thebans*, that use to live in Schools, and also the *Bæotians* have a worm bred in them; but the *Athenians* have none. A woman in *Sclavonia* cast out a very strange worm, described by *Amat. Lusitan. curat. medic. Cent.* 6. 74. *It was four cubits long, but not broad, half so broad as ones nail, of a white colour, of the substance of the guts, having something like an Adders skin: The Head was warty, and white, out of which the body grew broad, and grew still narrower toward the tail. This Worm was but one body with many divisions; the parts of this broad Worm were like to Gourd seeds, that had nothing contain'd in them by reason of the compression of its broad body.*

Artic. 3. *Of* Worms *in Plants.*

ALl Plants, herbs, shrubs and Trees have their worms: a worm in the root is deadly. For let the Tree be what it will, and flourish, yet this will make it wither, saith *Aldrovandus l.* 6. *de Insect. c.* 4. And there are sure witnesses, that in the roots of Okes such venomous Worms will breed, that if you should but tread on them with

with the sole of your foot, it would fetch off the skin. There are small white ones found in the sponge of the sweet bryer, which is outwardly soft and hairy, but inwardly so hard and so solid a substance, that a sharp instrument will hardly peirce it. In the white Daffodill, some are bred, which are changed into another flying and beautifull creature, which when the herb begins to flourish, presently eats through the cover, and flyes away. *Pliny, l.* 20. *c.* 6. writes, that some think that *Basil* chewed and laid in the Sun will breed Worms. If you bruise the green shells of Wallnuts, and put them into the water, and then sprinkle them with earth, Worms will breed in abundance, that are good for Fishers, *Carol. Stephan, Agricultur, l.* 3. *c.* 34. But *Theophrastus* 5, *de caus. Plant.* saith, that a Worm bred in one Tree, and put into another, will not live. *Joachimus Fortius* reports that he saw some who affirmed that from a hazel nut that had a Worm in it, there grew a Serpent for magnitude and forme. For the nut being opened so farr as the Worm, and the Worm not being hurt, they put the nut into milk, and set the vessel of milk in the Sun, yet so that the Worm was not beaten upon by the Sun; wherefore, on that side the Sun shined, they covered the Vessel, and so nourished the Worm many days. Afterward adding more Milk, they set it to the Sun again. The milk must be sheeps milk. Also they report, that a Worm is found in the leaves of Rue, nourished the same way, that lived 20, days; *Theophrastus* writes of the cause of them, plainly and fully. His words are these. *Ill diseases happen to all seeds, from nutriment and distemper of the Ayre, namely when too much or too little nourishment is afforded, or the Ayre is immoderately moyst or dry, or else when it doth not rayne seasonably. For so worms breed in chiches, vetches, and pease; and in rocket-seeds; when as hot weather falls upon them before they be dried; but in Chiches, when the salt is taken from them, and they become sweet. For nature doth every where breed a living creature, if there be heat and moysture in due proportion. For matter comes from moysture for the heat to work on, and concoct; as we see it happens in wheat. Worms will breed in the root of it, when, after seed time, Southern winds blow often. Then the root growing moyst, and the Ayre being hot, the heat corrupting the root, ingendreth worms. And the worms bred, eat the roots, continually. For nature hath appointed that every thing shall feed where it is bred. Another kind of Worm is bred within, when the moysture cannot come forth, shut in by the drinesse of the Ayre about it; then the heat contracts it, when the corruption is made. Then also food is administred to it, from the same thing. The same thing seems to happen to Apples and Trees that are worm-eaten from drought. For the little moysture that remains in the Tree, causeth corruption, whence the worm proceeds; but when there is plenty of nutriment it is otherwise, for then the juyce is sent forth to the upper parts, for it conquers by its quantity, and cannot corrupt. Next to this is that which happens to Vines, for in these especially when the South wind blows, worms breed, that are called* Ipes, *that is when they are very moyst, and the Ayre causeth fruitfullnesse, then do they presently gnaw the matter that is of the same nature with them. Also* Carpæ *breed in Olive Trees the*

same

same way, and such as breed in other things, both when they bud, and when they flowre, or after that the flowers be over. For these all proceed from the same cause. But this chiefly happens to Vines because they are moyst by nature, and their moysture is without tast and watery. F[illegible] a moysture, may be easily affected. Somtimes Ipes *cannot be bred, because the ayre it pleasant and not too moyst.*

Artic. 4. *Of the Indian Worm, and the March Worm.*

IN *Ganges* it is miraculous, they report there are blew Worms with two legs, that are 60 cubits long, and they say they are so strong, that when Elephants come to drink they will catch hold of them, by their trunk and carry them away. *Ælian* speaks of an *Indian* Worm of seven cubits long, and so thick that a Child of ten yeares old can hardly fathom it. It hath one tooth in the upper part of the mouth, and one below; both are four square, and almost a cubit long, and so strong, that what living creature it lays hold of with them, it will easily crush them. Somtimes it lyes hid in the bottom of a River; in the mud it delights in. At night it comes on land, and catcheth whatsoever comes in the way. The skin of it is 2, fingers thick. The way to catch it is this, they fasten a strong hook to an iron chain, joyning also to it a rope of white broad flax, and they wrap both the hook and rope in wool, that the Worm may not bite them off. Then they put a Lamb or a Kid for a bait upon the hook, and so let it down into the River. Thirty men stand ready with Darts, Leashes, and drawn Swords, and strong pikes well pointed at the ends, if they should have cause to strike. When he is caught with the hook, they draw him forth and kill him. They hang him up against the Sun 30 dayes, and thick oyl distills from it into earthen pots; every worm will yield 5. *Sextarii* of oyl, the rest of the body is good for nothing. The vertue of this oyl is such, that without any fire, a measure of this poured on, will fire any stack of wood, *Ælian*. It is said, that the King of *Persia* took Cities from his Enemies with this oyl; It cannot be put out but with abundance of thick clay. The moneth of *March* in *Germany* is wonderfull, that breeds young creatures in stinking filthy waters, that are like to guts, and feed only on sand. If any man go into that water barefoot, where this creature swims on the top of the water, he shall have a circle on his legs, as high as the water came, *Card. l. 7. de var. c. 37.*

CHAP. XXV.

Of Wasps.

WAsps then breed most, when Wolves kill Horses or Oxen. Sometimes they are found in a Stags head, sometimes in his nostrills. One brought one of these formed Wasps houses that was wonderfully made, to *Pierius Valerianus*, at *Bellunum*, from some Wood in a desart: Which he describes thus: *There were 7. Concamerations or rounds, one above another, set at two fingers distance, distinguished by little Pillars between, that every one might have space enough to go and come to his house. The diameter of the rounds unto the fifth, was about 12 digits; the others from the fifth, were made narrower, by little and little, so that the last was 5. or 6. digits. The first round, that is, the first Chamber, was hanged to a bough of an old Tree, fenced and guarded with a crust against all injuries of wind and weather; Beneath there were six angled Cells very close together, so that the other Chambers were all overcast with the same crust, and made with the like Cells; and all were held up with their pillars. All these Creatures flew out of the upper stations, and an innumerable multitude filled the middle Concamerations, a thin skin being drawn for a cover upon the hole of every one of them; when I had taken some of them away, I saw the* Wasps *with their heads downwards, that filled all those houses. But those that were in the lowest rooms seemed like to Embryo's of like imperfect worms; they were also fenced with the same covering, but very thin; as snails in Winter, kept for a milder time in the Spring. But these all dyed there, by the extream cold Winter, yet none corrupted; and after so many years they keep the same form and posture.* They are most lively; for, part their belly from their breast, and they will live long, and will sometimes prick one that toucheth their sting, an hour after. *Aristotle* saith, That if you take a *Wasp* by the legs, and make him to hum, (not those that have a sting, but those that want one) the rest will fly to help them. If they appear before the end of *October*, they foreshew a hard VVinter. If they go in heaps under ground before the 7. Stars rise in the Evening, they signifie the same. A swarm of *wasps* is naturally an ill omen. So *Livy* thought, when at *Capua*, a great swarm of them flew into the Market place, and settled in *Mars* his Temple. They were collected carefully, and burnt in the fire. The *Decemviri* were commanded to their books, and the Nine-daies sacrifice was appointed, supplications were made, and the City was purged. If any one touch the skin of a man with the distilled water of the decoction of Hornets or VVasps, the place will so swell, that it will cause men to suspect poyson, or a Dropsie, or some great sicknesse; The remedy is *Theriac* drank or smeered on it, *Mizaldus Memor. Cent. 7. &c.*

The End of the Eighth Classis.

AN APPENDIX TO The Eighth Classis:

Wherein there is contained the Observation *of* Andreas Libavius, *a most famous Physitian, concerning* Silk-worms, *a singular History,* Anno 1599, *at* Rotenburgh.

SInce it is hard to explain the opinions and experiments of all Authors exactly, and what they observed in divers places and times, to make a history thereof, and to condemn or allow, for this or that mans relation, what every man hath found to be true by his own use and observation: Perhaps it may so fall out, that neither *Pliny*, nor *Pausanias*, nor others, who seem to comment otherwise than we have found it, ought to be condemned; I will adde a special History of *Silk-worms* bred up at hand, which in the year of Mans Redemption, 1599, at *Rotenburg* at *Tubaris*, I, by diligent care and attention looking into their works and natures, set it down into a Calender. If any thing differing from this, hath been observed in *Greece*, *India*, *Italy*, or elsewhere in other Times, Government and Education, Custom, and the like: though Nature be said to act alwayes the same way, and to vary onely by accidents; yet what they observed will help, that by many mens observation, the history of Nature may be augmented and perfected.

The Silk-worms eggs that were laid in a clean paper the year before, and which in Winter I kept in a warm Chamber, I exposed them to the Sun, shining through the windows, on the 25 day of *April*. Those which were lead-coloured or black, they did not all in one day become Caterpillars, yet they all were changed before the end of that moneth, the worms creeping forth especially in the morning, as every one was grown to perfection, leaving an empty shell, or covering of a white colour, the egge being eaten on the side, in which place the ends were blackish, by reason of the biting. The purple or Citron coloured, or clear, or distinguished with a black point, brought forth nothing; either because they were not touched with

with male seed, or the principle was suffocated in them. These small Catterpillars within the egge obtain their form, and lye wrapt into a Circle; whence the shell being eaten, they first put forth a black shining head; then by degrees, they creep forth, with their little mouthes, and little feet, by their striving. Then I observed little threds hanging from their mouths, and they were so small, that they could not be seen, unlesse it were against the light: by these they ballance themselves, and hang from the leaves; or wheresoever they fell from higher places, they creep up by them again; or wheresoever they were hanged, to try what they would do, they involve themselves with manifold turnings, and so mount upward, like ordinary Catterpillars that eat leaves and boughes.

There is a black little worm and hairy, with a white circle near the breast and head, and with another where the belly joyns to the little breast, and yet by reason of the hairinesse, it is not very plain to be seen at the first. At the end of the back, where the belly ends, a little grisle comes forth; and as for the rest of its form, it is the same with the Silk-worms, but that the hairinesse and blackness, by some changes in the skin, passe into smoothnesse that shines, and is white; and of a small creature, a worm is made as long as the middle finger of an ordinary man, with the 3. joynts, as thick almost as the little finger; yet they are not all of one bignesse. You shall find some Caterpillars with a three-fold spur in their tails, or a double one; so that the greater of them riseth from the last circle of the back, the lesser ones rise presently from the coat of the tail that is under it. I saw one great one that was on both sides fenced with two lesser ones, in the place whereof there are sometimes onely two points that stick forth. Catterpillars go as Silk-worms do: For they stick the props of their tails into the ground, and then by degrees they go on by circular motion. First drawing up those parts between their tails and their hinderfeet: then fastning these upon the distance between their breast and their feet, untill they come unto their breast and former feet; which being fastned, they lift up their tails again, and underprop their steps. For animal motion is made, when some part stands and underprops the rest. So soon as they were bred, I gave them the tender leaves of Mulberries, I put them upon the leaves with a thin knife; or I let them creep upon them of themselves, and I put them together into a woodden box; They set upon the sides and smooth parts of the leaves, above and beneath. For the appendixes of their noses do not hinder them. So I fed them from the end of *April*, or thereabouts, untill the eighth day of *May*, whereon I found they cast their first skin, which was a little black shining mouth, with a slender black skin. They are wont a little before, to pause on it, and to sleep; it is a renewing sleep, if it be a sleep properly. So soon as their old skin is cast, they appear greater presently, smoother, and of a more shining black, for the horny covering of the head that growes under the old, is greater in proportion. When the skin is off, the rest of the body swells, as if the narrow-

narrownesse of the skin hindred it to grow so great before. The same covering or skull of the head, when it is new, is white; but when it is confirmed, it grows black again, untill there be many changes. But as, before they put off their skin, they abstain from food, so a little after they seem to grow sluggish. For their mouthes are too tender to feed on leaves. Whilest they run over the leaves, oft-times one goes over another, and they willingly endure it, if they be not hurt too much. For then lifting up their little breast, they will shake their heads, moving them here and there, and the Silk-worms do the same. Food is given them once and again, and the multitude of them remains in a narrow place. When they have eat enough, they grow sleepy. Then you shall see them like Statues, or such as are taken with a *Catoche*, lifting up their mouths and breasts growing stiff upon the leaves. But if you cast in new food, they wake presently and feed again. They seem to perceive the new leaves by smelling them. For before they touch them, they will raise their bodies toward them. Yet you may suppose that is done by some alteration in the feeling quality. The excrement of their belly is then small and black like to Gun-powder.

The 16 day of *May* some of them cast their skins the second time; some slept, and the dayes following cast off their skins. They break near the head, and they stick to the leaves, the Caterpillars coming forth by circles moved in order. The little mouth also doth not fall away presently, but hangs for a time about the new mouth. Then the black colour changeth into grey, and the Caterpillars grow greater; but the breast is white, and so full of juice, that it is almost transparent. But because they do not all change their skins in one day, if you please you may part the one that doth, from the other that doth not. But I left them together, and onely gave the new ones new food, the rest yet sleeping in their old clothes, and waiting for their change. For you cannot then cleanse their stall, but you must defer it till they awake, and can be invited to new leaves. The third change began the 22 of *May*, when many of them slept, some of them put off their coats. It was no longer so black, but it was white, with the little mouth; and the worms came forth whiter, leaving their old skin: they were more rugged that did not stick to the leaves by threds; and those lesse, that did. For these skins were long and triangular hanging so high. Downward they rise sharp in the middle, which, I conceive, happeneth, by the top of the tail drawn thither, and lifting up the skin. The last extremity of this cast skin is like to a fishes forked tail. The Caterpillars once more freed, fed till the 25 day, and then I observed them to sleep a renewing sleep, and some new ones of them the same day. More slept on the 26 day, some on the 27; very few on the 28 and 29th dayes, that now the difference was greater. But those that slept on the 27th day, were changed the next day, and fed again after a little pause.

With this fourth change of Catterpillars were made Silk Worms, smooth and white, yet with lead colour'd spots, and a mouth like a white

white horn. This is the first moneth of their life, and their first age. But since in the third and fourth change of their skin, all things are more easily observed, and known, I shall somthing more accurately describe them. Catterpillars neer their third and fourth change, have their skins somthing more ill favoured, and stiffer than for the breeding of a Worm. Wherefore a soft skin comes up underneath, and the other falls off by degrees: and because they stick with some nervous bands on both sides, wherein there are some prints of spots, and these, are not easily broken, they strive more to cast them off, and therefore sleep two days almost, when therefore they come forth, their old horny mouth is parted from the new that comes up under it. The Worm it self, when the cast skin sticks to the leaves, pulls up his feet and little legs, somtimes pulling them up, somtimes slackning them again, untill she hath pull'd them out of their old covers. In the mean time the skin on their sides is wrinkled, the skaly divided body being contracted into it self, and extended again. So the old skin is loosned from the whole body. By and by the Worm goes foward; and draws the bands on the sides by degrees, the skales being thrust forward orderly, and then drawn in again, that at first you would doubt whether the Worm would come forth before or behind. But this way are the bands broken. First you shall observe it to move forward neere the brest, for there the points depart, and you shall see two in the cast skin, two in the worm. Moreover whilst the skales are drawn, a violet colour'd line as it were is in both sides of the cast skin, both by reason of the points and of the bands applied to both sides. In the mean while the tayle is wrinkled, the feet are freed, and a new worm creeps forth in half a quarter of an hour, that hath an old mouth joyn'd to its mouth, as a Mule with a headstal, you shall see also a white string that it draws at the end of the tail, wherby the skin stuck to the back of it: when they are fast they strive but easily, but when they are loose, they turn themselvs strangely on their backs, sides, bellies, till they can get loose. Some of their skins cast, are round; some long. If you take it by both ends, you may draw it out to its full length, with the points of all the feet and skales, for nothing is wanting but the little mouth. The fourth skin in this change is farwhiter then the third, as also the covering of the head. These Worms are now Silk-worms, if you take good care to feed them, and govern them rightly; They are fat and white, but some more than others; for some seem yellowish, some almost lead-coloured. The feet and mouth at first are soft, wherefore they stay a while from touching of feeding on leavs. They stick fast to them, and by help of their tails, they can draw themselvs in and out. The hinder feet are thicker and blunter, as it were with 3, joynts, and in the middle a black spot, which I think to be the instrument they hold by, because she can at pleasure pull it in and out, as Cats do their claws. The forefeet do not only serve to go with, but to lay hold on leavs to help their body in passing, to draw the threds, and for other uses. The parts from head to tail in length, on the back are the head, the bunch

bunch or wrinkled swelling of the breast, eight semicircular scales, and a three forked taile. The swelling of the breast neere the head is white in some, in some it is distinguished with two black and blew spots, which are divided with a yellow line, and in severall ones it is severally made. For in some the colour is more remisse and watry, and not so visible, in others it is more deep. But where that bunch riseth up, there are seen 4, knots, and the skin that is by them is wrinkled. The half Circles follow. They are joyn'd with a very thin membrane, as it were by a green line from blew. But the skales are white though in some of them there is somthing of a lead colour that shines under, and when the Silk-worms are ready for their Silkwork, they become of a spiceous colour, and all of them are marked with one spot on each side, with a little circle about it. I said there were bands, which appeare also in the *Aurelia*. Lastly the eighth scale is either distinguished by two black and blew spots, or moonlike semicircles, which two half Moons one respecting the other with their horns are there inscribed. But they are not equall in all, for somtimes they are more conspicuous, somtimes more fading, fine, thin, lead colour'd, white. Hence there are two small Circles, and that which follows these, hath two knots, untill that which is next the rump, and raiseth the tip or point; In the great ones there are observed bunchings forth in all the skales, but they are more eminent in the third skale. The skull is horny, but it is divided as it were into 3. parts, the right and left, which you would take to be marks of the eyes, and then the setting together of the mouth, which are again distinguished into the appendices and the jaws, wherein stand the saw-like teeth, The throat runs through all the length of the back, as farr as the props of the taile, upon which in the last skale is the end of the Belly. Also there are to be seen in the back, as far as the Plectrum of the tayle, some nervs moveable with a continuall pulsation, as the heart and arteries use to move, and these nervs are yellow from white, and when they are drawn asunder, they discover a green throat or intestine. They stick to the plectrum, as if there were some passage for breathing, though they do not breathe. But it is no doubt but there is the Seat of life, though I discovered in the young ones a kind of red part, as I shall shew underneath, beating by it self alone like the heart, when that plectrum is cut, a moyst yellowish liquour comes forth, and the Worms themselves do not dye, but they stirr the more violently, and roule and turn themselves that you will judge that they are in great pain, the nervous principle being hurt. The dung of them represents their meat, for it is dry with six corners long, as it were set with eyes, whence one may collect the disposition of the gut or belly. They are green from their food, but because they are hard, and without moysture, they seem black, as those that are more moyst seem more green. Here if you mark you may distinguish the males from the females. For the females here, as the Philosopher writes of other females are greater, fatter, moyster, softer, whiter than the males, which are more rude, more spotted with

with wan spots, and more slender. If you handle them you shall find them all to be cold. They use oft to rayse themselves on their hinder feet, and to stand so like statues. When they will feed they fasten on the sides and swelling veins of leaves, contrary to Catterpillars. I believe the appendixes of their mouths hinder them, yet they afford some help for their former feet to hold their meat with. They eat the leaves round, that they leave a round pit. When they are full they go aside, and they rest many together on a heap; I think they are delighted with mutuall heat; you may discern those that sleep, from those that cast their skin, by observing the pulsation in their back. For the motion in those that sleep is equall to those that wake; but when they cast their skins, it is slower and lesse, that you would then think they were sick. Also those that sleep have but one mouth; but such as cast their skins, shew a little mouth besides. But this is not in Silk-worms, but whilst they are yet Catterpillars. Some of them being four times renewed, have a filthy dark head, and yet they feed on. Some do not increase much, but continue small.

We said before, that from *May* 25, to *May* 29, the fourth change is made in divers of them. From this time to *June*, the 7th, and 8th, 9, 10, 11th, they feed greedily, and grow fat and great; and I was forced three times a day, and about the last days, four times a day to give them meat, or oftner. For when they are almost ripe for Silk-work, they eat more greedily, going with great courage to the leaves and biting off the nervs. You shall note that about 13 days passe between their fourth change, and their abstinence from meat, and provision to make their Silk. For the times answer one the other, from the 25, of *May* to the 7, of *June*, from 26, to 8, from 27, to 9, from 28, to 10, from 29, to 11, wherein I included the last, except one small male, that fed longer. About the last days, many begin to grow of a spiceous colour, which begins to appeare more evidently on the hinder part, and from thence to enlarge and go forward to the bunch of the breast, though others are more, and almost all yellow; some remaine white with blew mingled with it. When they must dye, they go to the sides of the chest, nor will they bite the leaves, though they creep over them. Some fasten their threds at the corners, as if they were beginning the entry; others creep by the outsides, and seek here and there for a fit place to lye hid in. I shut many of them in, with paper-Coffins, which I disposed of and fastned commodiously in some place, in which by gnawing and rending the sides, they do make a noise for a while; but afterwards by voiding a dry and moyst excrement of their belly, (for they void out both) by their hinder parts, they fasten them so fast to the paper, that you would think they were glewed. Afterwards for 3, days continually they make a little bladder, which being absolved they lay aside their fifth skin, with their head and tayle and are transformed into a nympha again. Some I did not shut up in papers, but disposed them in a wodden chest with boughs, and let them choose a nest for themselves; you shall observe thence, that they

they seek chiefly for corners and hiding places, and oft times many of them make their Silk in the same place, if it may be; some ordering them, right forward, others obliquely, others broad ways. If the place be too narrow, the wrong end of the skin is pressed together on the side, nor doth it containe perfectly Oval. One of these cases is longer, thicker, larger than another for the greatnesse and strength of the Silk-worm. They differ also in colour; some are Gold, Silver, Citron colours, and they are double. For some are greenish, some more yellow, though others call all these green. The first of them all, as I observed, was white, except some few that send a yellowish tow before. Some of Gold colour have their inward coat white, nor is the yellow colour certain. For when the cases are unfolded in water, the silk growes white; and in dye, yellow, &c. But it is worth your labour to contemplate the matter of the silk; and what that is, that yields a thred so long.

When therefore I saw a great worm to wander, I put a line about his neck, and dissected him. He lived stoutly when his throat was tied, and felt acutely. For at every incision of his back, the knife scarce touching him, he would tosse himself violently, as if he would help himself with his mouth and forefeet. His skin being divided, I saw his long gut, as in a pike, the forepart was swoln and wide, the hinder part narrower. On that gut did the nerves or beating arteries lye, with a continuall *systole* and *diastole*, and they ended on the *plectrum* of the tayl. When I cut off this, not onely a yellow clear humour did break forth, but the heads of the nerves, put themselves forth in the motion, and their stirring grew weaker. The Intestine hath a double coat, one thick outward coat, and another thin one within. The thick coat feels accurately, and it is near the throat covered over with much glutinous matter, which afterwards becomes matter for their wings, and of the hairinesse of the Silk-worm, as the external excrementitious moysture becomes the *Aurelia*, or outward shell. When the thick coat is pricked, the intestine comes forth, yet wrapt with a thin coat, and it contains much of the meat they eat the day before of green leaves. Also you may see, when the skin is cut, and the thick coat of the Intestine, that moysture will run forth in abundance, that is transparent, which I think is their blood, and by concoction is changed into silk, and the parts of the Creature. The head cut off, the beginning of the throat swells forth, and doth represent the blunt head of the *Nympha*. The gut being taken out with the *fæces* contain'd in the *abdomen*, there are seen, like worms, some glutinous clammy concretions, some yellow, some white, two very great, the rest small, so like worms, that nothing wants but a skin and life. They are sharp at both ends. They are so placed in the belly, that both their points are turned toward their tail, and the body of them is doubled; you would say it were their yarn folded together. If they begin to spin from the points, it is necessary that they be drawn from the tail to the mouth. I think that the small whitish pieces make weaker silk and towe; but the greater, the stronger. I took

took out these worms, and I found that they dryed presently on the paper, and became hard and brittle, as Ox glew useth to do, and as the Tendons and Intestines of living creatures. The body of it, is all of one kind and transparent, that no man can draw it into so fine and small thred; but this labour must be left to the Silk-worm, as webs to the Spiders. The outward skin was white, mingled with lead colour; but within it was drawn with a little skin black and blew in parts; and partly with a shining gold colour as in a Herring. About the belly where the matter of the silk lay, the substance was pretty thick, consisting of nervous deductions, and a texture containing a white fat, infolded with nervous coats; the like is found afterwards in the young Nymphs of Silk-worms; and they have a matrix and a genital member. Under that substance there are lead-colour'd branches let down into their feet like to tendons or chords. This skin, the matrix and genital member remaining, is put oft in weaving their silk, with all the parts that stick forth: so that the Nymph, and Butterfly that riseth from thence, borrow nothing from the Silk-worm but the belly and gut, and the nervous parts that are in them. There remains in the gut and genitals a great deal of moysture. From whence afterwards growes the matter of the seed, and excrements of the belly. But the humour that is in the Intestine is yet raw, and is partly green, partly yellow, something thick, and elsewhere thin. If one part the fat from the nervous coats of the genitals, and smeer it on paper, when it is dry it will be like sewet, and brittle. You may compare it with milk in fishes. Therefore it is apparent, that in the Silk-worm these members are outward; Its threefold feet, the skaly joynting of the belly, the breast, head, mouth, the *anus*, skin, tail, *plectrum*: but within is the Intestine, the vital arteries, or the nerves, the white flesh of the breast, the genitals, betwixt which and the Intestine, is contain'd the matter for Silk; and besides those, the pannicles and nervous membranes, in which the parts are contain'd. Whether they have any heart, let others seek out: yet there must be some such Principle; and that not in the head, nor any where but near the breast, whence the vital force is sent through the whole body: And this is manifest chiefly by motion of the nerves or arteries (as I may call them) in the back of the belly, not of the breast, so far as the hollow of the tail. I will speak afterwards of the nymphs and young silk-worms: Now I will add what I observed in their making of silk.

When they abstain from meat, and, as I said, they seek for a place to make their case; they have commonly about the end of their belly a green wan mark, the other part of their body is white with green, or wan, and of a spiceous colour. Then I saw them often make it as they went up and down, and to gape at the mouth, as it were Cows chewing the cud, when as out of their gorge they pull back their meat to chew on. Then it is likely, that the Silk-worms strive to turn the matter of the silk toward their mouths, and to draw it out. If you put them into a paper Coffin, you shall hear them gnawing

a whole day, and then into the bottom of this Coffin like a Fryars cowl, they put down their excrement, first dry, like a black green pill or yellow. The last pill but one is commonly green, the last is yellow, and sanious. The number of this dung is, as their excrements abound. For I found in one paper, sometimes two little knobs, sometimes more, to 12, of divers colours, as black, green, yellow, and those not with bright spots, but round. When the last yellow pill comes forth, watry matter comes forth of divers colours, and a different consistence. For some part is thicker, some thinner, having some red colour with yellow and green; yet some of the *sanies* is bloody and blackish; such it appears on a clean paper, where you may sometimes see green polluted with yellow; sometime somewhat like chalk. In a glasse, it is like to Lye. But that you may not doubt whether she voids it by her mouth or her belly; know, that she makes her silk onely out of her mouth, and her excrements by her belly. Yet they send forth moysture also out of their mouth, when they are sick, or strangled, or pressed. I found a Silk-worm that was at liberty, that put forth both these excrements behind. Some of them void forth much moysture, others but a little. They that void much seem to be the weaker, and to have gathered lesse silk. For many of them make small silk cases, but not all. It is doubtful what colour the silk will be. For I was often deceived by observing their heads, backs, bellies and feet. All of them do not make silk of the same colour; and oft-times the towe and utmost coat is white, but the middle silk is gold-coloured. I thought the Silk-worms that were of a spiceous colour would make yellow; and the white ones, white silk; but that was false. For both drew white. Once and again I judged right, that a Citron coloured female would make such a thred: yet such was also drawn by that silk-worm, whose belly was Lead-colour with white, and the spot in the fore-head yellow. I saw a female also all white, that made white silk. In small and narrow papers, yet according to the Worms proportion, lesser cases are made, but thicker, with lesse towe; yet I observed little cases in the larger. They that are not shut up, but choose a place freely, they consume much thred in towe at random: whence the silk is much lost. For their cases are lesse, and not wrought so thick. If you will observe, you may know exactly the reason of their spinning in these things.

For when they have wandred a time, and have begun here and there to make their entrance of their work, (which they do by diligent bending of their bodies, whilest sticking by their hinder feet, they do variously move their head and their whole breast upwards, downwards, backwards, forwards, and on all sides, if there be a fit place to fasten their silk threds, which they do not by sight, but by touching; for they have dull eyes) then they draw forth their threds, and the foundations of their house, and that simple or manifold, as they find need of a strong foundation. If it be near the pavement, they stick to it with their hinder part; and if it be aloft, they hang by the same, or

or from boughs, or any other place. For they turn their breast and head freely; and if there be need, they change the situation of their hinder parts. Thus the entrance of their first work is made. Now the dry excrements are voided from their belly; the Entrance being finished, so that now the Silk-worm is secure and free from outward injuries: she voids the last dung with moisture, of which I spake before. The towe is oft polluted with this, yet it runs off to the bottom. When her belly is emptied, the spinner ceaseth for a while, and puts forth her *anus*, as if she had a *Tenasmus*. Then she calls back the matter of the true silk, and continues that to her last breath, and till her silk work is ended. Then by degrees she thickens her threds from a large to a narrower compasse, so that it becomes an ovall figure, in the hollow whereof she may turn her self. Her mouth, breast, and forefeet are in a continued motion. The hinder parts stick, yet are they translated to another place, when she makes the bottom or the top. They that make their cases in the ground or pavement, they seem to sit on the naked pavement; but by degrees they weave threds under them, and in all parts they thicken the whole case alike, except in the point, to which in straight places they cannot reach. Therefore the frame of this is made more at first, but the basis more in the end: Though this be not neglected at the beginning. Wherefore when the threds are unfolded, by untwisting them, the point is first made plain, and the inward coat is left, like a finger-hood. So they weave to the third day; and you may see them working the second day, if you hold the case to the Sun. In paper hoods the base is made upwards, the top downwards: and in two dayes it appears but thin. The third day it is thickned: and then the worm puts off her old skin, and becomes a nymph, which may easily be observed: for when they weave, yet they stick fast; neither is their dull falling down yet perceived. But when it becomes a Nymph, as if it were a stone shut in, shake the case and the Nymph falls down. And this dull falling down endures untill it be changed into a young Worm. For then the empty place is fill'd again, and the Worm sticks to the case, seeking to come forth. There was one Worm I had, that made a case, whose entrance, amongst those were shut in a Paper, was a solid coat: in those that are at liberty, it consists of threds disposed and drawn divers ways to and fro. Some have observed in one case two or three shut in; but when the place would be too narrow, that case cut was common to them three, and the Silk-worms found within were become close together, so that they seemed like to 3, fingers joyned, when they were all set at liberty, they worked a little, but it was but a little. It is observable, that some Silk-worms in paper made no Silk, but presently turned to Nymphs; I think this befell them, because they fed on lettice, (yet not to them all) or to such as had too little meat given them, or that were sick and could not gather matter of Silk, which I suppose is made of abundant blood like fat, and laid apart. Other strange things happen; whereof in their proper place. All their cases are long and ovall.

oval. Yet I saw a white one almost exactly round, that it had a basis spharicall on both sides without any point. It was small with its fore-house, but yet thick as it should be. But the silk-worm in that did not go to be a Nymph, nor a perfect young worm, as I shall shew by and by. It seems a question whether they draw forth the silk out of the end of their belly, or out of their mouth, though they alwaies distribute it with their mouth and their fore feet. It is no small arguiment, because that near the props of their tail at the bottom of their belly, a chink is seen, and both ends of the silk-matter in the belly lie to that place: Also the voiding of the Excrements at the beginning of their working, confirms this. For as when a woman is to be delivered of a child, what fæces there are in the bladder and the right intestine, that is voided and pressed forth; so we may think the silk matter striving to come forth in the Silk-worm doth the like. When she begins to labour, her belly swells more; from the belly begins the maturity, known by the yellownesse; That comes first out, as being first ready. Also Caterpillars and Silk-worms, stick to the pavement, with a hairy down about their feet. Some are observed to weave on their backs, that the silk may be drawn out of their belly, and may the more easily be ordered by their mouths and feet. This may be alledged for the first opinion. But stronger arguments prove this to be false. For you may see with your eyes, that when the belly rests, threds are drawn out of their mouths, and they sticking by their clamminesse, are drawn out by degrees, by turning back their necks: And therefore Silk-worms do not onely so draw their threds lying on their backs, but lying also on their bellies where yet the whole Worm turns her self freely. Then it cannot come forth by the tail, nor by the chap under the tail. For from the place of the silk to the Intestine, there is no passage: and the chap of the tail, that notes out the genitals of the young worm that shall be, is covered with a skin, Moreover, before the silk comes forth, oft-times the silk-worms do cry and mutter, as if they were ready to vomit, drawing the matter to their throats. Nor do they swell about their tails, but about the middle of their bellies; Also in a Cessin of paper, when no thred appeared on their feet, I saw them draw it forth with their mouth onely, and to fasten it; and the 2d. of *June*, when I earnestly observed one making its case, I drew the beginning of the thred out of the worms mouth, when it was wet, to its full length, the belly and the feet having no silk upon them: So Caterpillars hang by the mouth, their thred coming out there. Nor do Spiders and Palmer-worms on trees make their webs otherwise. And so much for this question.

When the Case is made, the Silk-worm is changed into a Nymph, and the fleeces are taken, first choosing what males and females you please, for preservation of their kind. Some say you may know their sex by the colour of their case; some by the bignesse: And this is some argument. For, because females are commonly the greater, they make also the greater houses. Yet sometimes we are deceived; for

for a strong male may make a greater case than a weak female. I have seen them both of a bignesse, and I have seen females, fed in other places, to make far lesse houses than my males. Wherefore the signs must also concur, observed in the silk-worms themselves; of which before. The other cases are cast into scalding water, that the worms may dy, or they are choaked with the heat of an oven, after the bread is taken forth, taking care they burn not. Then taking away the Towe, maid-servants or such as can labour, are ready, who may loosen the beginnings of the threds; which being found out, many of them are cast into a bason of cold or warm water, and the servant Maid sitting ready with a drawing instrument, doth continually roll down 30 or 40, or more threds joyned together. If the thred break any where, the fellow-labourer must seek for the beginning of it, and give it again to him that unwinds it. That is continued until they come to the inward coat, which being very difficult to untwist, it is dryed and pull'd into towe and kembed. When the threds are thus untwisted, they send much dust into the Ayr, and you may see in the bottom of the vessel some filth that fell from the silk. I tryed carefully, whether I could with one work unwind a whole case not breaking it, taking away the Towe, which by reason of its various foldings together, weaknesse, and divers principles, cannot be untwisted at once drawing. I obtain'd my desire onely in the middle of the silk; for that which is before the house is wont to break easily, but the middle holds best. The last coat, by the weight added to it, (for then the Nymph falls down) was unfolded by me with great care to the thin skin, which was scarce equall to the thumbs nail. Those cases are best untwisted, whose basis and top answer diametrically; but those are harder, whose top is bound, and they that are crooked or bunched. For here the thred sticks and is tangled, that it will hardly yield without breaking. First, the point is made bare, and untwisted all to the middle of the case. —— The thred of one silk case was as long as this line here drawn, when it was drawn forth 7000 times, and in one it was above 8000 times longer: yet they are not all of one thicknesse and greatnesse; which may be seen, by drawing them asunder into little skins. For some fleeces I drew into 12, some into 8, more or lesse coats.

The wild Silk-worm hath an entrance, a single coat, and somthing a thicker case: wherefore the thinner cases easily yeeld to the fingers pressing them, but the thicker will resist. When the top hath a hole almost to the middle, that the Nympha may easily fall forth; she falls with her cast skin, wherein there is both her head and all her feet. Sometimes commonly the head of this old skin is over against the top of the case, that we may understand that it was cast off, whilst the Worm when the case was perfected, doth bend and turn her self upwards through narrow streets. The Crown of the Nympha is toward the basis, the tail toward the top; and being that the Silk-worm is above twice as long, the Nympha is contracted to a small bignesse, that it is scarce so long as the middle joyne of the second

cond finger of a man. She is alive; and gives tokens that she is so, by the moving of her top or tail when she is touched. If you regard her outward forme, you would say she is a scaly Worm, and her head is covered with a bag. The scales are dark coloured, as if they were staind with smoke, and they are eight in number, as farr as the censines of the Crown: On the sides of each of them there are two round points, out of which the tendons or bands appertain to the young Silk-worm. On the Crown there is a white spot, as if the mouth of the young Silk-worm shined through it, with three little black spots. After this on the foremost part there are prints of feet and horns, and on the hinder part toward the sides, are prints of wings. If you will observe the inward parts, the fourth day before it is changed into a young Silk-worm, after it hath lain hid, you may open it, you shall see nothing else but a common empty place, and in this only three distinct humours. One of a watry thin substance, of a yellow colour; This is equally diffused through the whole space. The other is red, like blood; This sticks in the upper part, where the head and brest will be; you would judge it to be the rudiment of the heart, because I saw the like afterwards in the young Silkworm, a certain Masse, that moved of it self, if a heart may be attributed to this creature. The third humour is white and yellow; and it is like to a hen egge, cast into a hot water and run about; or like cheese-curds, if you add some yellow to them. Where you see the prints of wings and feet outwardly, there lies hid a phlegmatique clammy matter, fit to make the membranes of, you shall see no distinction of parts; I think the life is in the nervous coat, that is next under the outward shell. For the Silk-worm in that part was exceeding sensible, and had a motion of the heart and arteries; you would call this a little bladder fill'd with humours; which yet compared to the *Aurelia*, after the young Silk-worm is crept forth, is far thicker, and you would say it were a shell cloathed on the inside with coats and a tenacious glew. After this, is the down of the young Silk-worm, the wings, feet, skin, and the other outward parts. So the Silk-worm passeth into throat and belly, for whose sake only it was detain'd there. Yet here appeareth no green colour which was much in the intestine of the Silk-worm now ready to spin. Part therefore was voided before the case was made, and part was changed into some other juyce. In the tip of the tayle there was also some clammy matter like to the raw white of an egge. I thought it to be the rudiment of the genitall parts. For with that the matrix & spermatical Vessels were cast off, the beginning whereof is seen also in the belly of the Silk-worm. The humours taken on a clean paper and dried, were stain'd with black, as if you had mingled ink with them, yet the tallowy substance remain'd white, and in some places a red and yellowish spot appeared with a white spot like chalk; whence we may collect that that blacknesse was only from a watery yellow humour, which only shined on the paper where it stuck thick, like to shining ink. The rest of the Nymphs, partly deprived of all Silk, and naked

partly

partly shut up yet in a single coat, partly safe in the whole Silken case, I handled with no other care, but I only putt them up in a box, and set them in my window, yet I distinguished them into divers Cells, such as I thought to be females, and such as I thought to be males, and I was not deceived in more than one only. So from the first shutting them in, untill they came forth, there passed 26, or 27, days, setting them in my study to the afternoon-Sun in the heat of *June*, as it was very hot in 99. For the female that was buried on the 11, of *June*, came forth a young Silk-worm on the 8, of *July*. A male that began to spin on the 9, of *June*, on the fifth of *July* became a butterfly. The same day two females came forth out of two greater white cases, and one male from a lesse yellow case. On the sixth of *July* in the morning (for they all come forth in the morning) a male came out of a white case, he was dusky colour'd and rough; and a white female very tender, with a great belly, and with great wings, came out of a case that was yellow and greenish. Also before on the second of *July*, a male crept forth of a Gold colour'd case; and a female out of a whitecne.

These began their Silken case the tenth of *June*. When young Silk-worms are ready to come forth of whole cases, when you shake it, you shall find no more a dull weight; and then the aurelia opens about the back of the thorax; after thata great deal of cleare humour that is white is powred out of the mouth, and the place grows wet, where they will make their passage. This way they came forth with labouring and striving. I saw a female coming forth on the 8th, of *July*; she sent so much moysture before her, that a great drop fell into the box. Then her head appeared, she striving with her feet within. By degrees, after her head, she put forth these; and presently she stood upon the pavement with them, and by striving by little and little, she drew forth the Circles of her belly; that when the first was drawn forth, and she would draw out the second, she drew up all her foreparts, that so she mi ht pull forth the next roundle; yet it is very like, that by that contracting of her self, the hole was made wider that her belly at last might come forth with lesse paine. Her divers turning side ways, helps for this also. In the meane while the thicker young Silk-worms and such as have more moysture in their bellies, presse somthing forth when they strive, and they do besmeer the case where the hole is, both inside and outside with a plaister-like clammynesse. They that labour lesse and are slenderer, leave but little. Then you shall see the whole hoary case, somthing wet by the moysture comes forth of their mouths, and made easy to passe through. Sometimes they are wont to be quiet, and oft times to inflate their bellies, to draw it forth and draw it in againe, as if they did set their disioynted limbs, and put them in their true places. And they do so draw forth and loosen the circles, that the joynts stick up fill'd with a yellow humour; as if they were inflated. You shall see the naked Nymphs, when the butterflye is perfect within, two or three dayes before to move themselves, as if they would break the bands by

which

which the young Silk-worm is tied to the *Aurelia*. I then opened one of them with my knife and nailes, that I might see the congruity of the outward with the inward parts. That I did, the fourth of *July*, wherein then about 20, days were passed from the time of their making Silk, The first skale being removed, about the beginning of the little breast on the backside I saw the tender upper circle of the belly; it was skinny covered with a moyst down, yet so short and made plain that the down could scarce be seen. Under the place of the side wings, which in the *Aurelia* you may compare to the Shoulder blades, two true wings of the young Silk-worm did lye hid, joynd together, and one laid upon the other. They were all short and tender, as not being yet perfect in quantity. Between the wings of the thorax, the latter knob appeared, fenced on both sides with long hairynesse, but not yet covered over. The wings and this red part being dispatched, I came to the upper lines bending downwards; under these were their horns. But under those that followed, the feet on the brest did lye; being bent obliquely and directed to their belly. Under the white spot on the Crown of the Nympha, the hairy Crown of the young Silk-worm, and the hinder part of the head are placed; next to which lyes the print of the eyes, like to two black spots, which are divided with a cleft like a Lyons lip, the whole belly is like to white paint. The hairs of it are very wet, and appeare smooth. They have roundells, as well as the Silk-worm and the Nymph. But I did not open the whole young Silk-worm, but he by his striving pull'd himself forth of the rest of the *Aurelia*. I saw with what labour he unloosed the bands of his belly, which like white cords do hang from the points of the circles, and are left in the empty *Aurelia*. The fundament sticks also fast, wherefore the tip of the *Aurelia* is contracted toward the brest inwardly. The male was with hairs and wings imperfect. I left him in the box. He lay still, till the next day. Then he grew white by degrees, and the downynesse was seen more exactly. The wings also grew, and then he grew more jocund, and being admitted, the third day he copulated stoutly. What these young Silk-worms are, appeares by what we now say, and did say before: we must add this; that the belly in the *Aurelia* is more contracted, and when it comes forth it becomes greater and longer by a third part, by distending and inflating it. In the *Aurelia*, there is a threefold rupture from the Crown through the back of the thorax, and there the young Silk-worm comes forth. The other parts are entire.

All the rest of the young Silk-worms being come forth before the 14th of July, two cases remained whole, as if they would yield nothing, though they were very thick. One was a small round male; the other a female twice as long, and pretty large, a little about the back the worm was raised with a little bunch. The colour of the Towe of both was white; but in the Citron-colour'd, the silk was greenish, though it were a more watry colour in that. When I divided the round Coffin with the edge of my knife, a carcasse appeared out-

outwardly, half a Silk-worm, half a Nymph. The forepart was a plain Silk-worm; the latter a Nymph; for it had not put off the whole skin, but onely the latter part, which was next it in the case. The carcasse lay crooked, so that the forefeet in the breast touched almost the first pair of the hinder feet. For here between the first conjugation of the hinder feet, and the second, the skin was broken; So that the Nymph was covered with her former skin, wherein was her head and breast with 6. feet, and part of her belly with the two first. The skin and the *Aurelia* being removed, within there lay a perfect male young silk-worm, and it had been living, as appeared; for that striving to come forth two dayes before I made Insection, he had wet the case with his moysture; and the 19 of *July*, when I perfectly freed him, he shew'd clear signs of motion in his belly and feet: The cause why he could not clear himself and come forth, was found, in the close sticking of the Silk-worm's skull, and of the forefeet, the coat being fastned to it by nature. Therefore though in the back of the Thorax he had made a gap both in the *Aurelia* and the cast skin, yet could he not pull forth his head and feet; so he fainted by degrees.

Here I observed the policy of Nature: For when in putting off the cast skin the forefeet are plucked off, and the hinder feet depart also; yet there are prints left, under which afterwards others grow up. And the fins of the wings were inserted into the holes of the old silk-worm, and the whole head of the new silk-worm, with the horns of the head were shut in a covering. This was the male. The Female quite dead, seemed yet more monstrous. The Silk-work being finished (which was a great silk case, and as long as two joynts of ones little finger, but the males was thinner a great deal;) The silk-worm strove to cast off the skin, that was white, light, and shining within side, but outwardly hairy and yellowish, and he had drawn forth his whole back, that bunched forth extreamly, his foreparts being contracted circularly; but he could not free himself of the little mouth that stuck too fast. Wherefore there you might see the head of the cast skin, the crown of the Nympha, and of the *Necydalus* joyn'd together: which conjunction kept the skin upon the belly, that it could not be totally cast off, and drawn forth. Wherefore it stuck so with the point of the belly, as if it were shut into a sack, and bound about the head; but a hole being made on the backside, it might have drawn forth the back, but it would yet have stuck by the head and fundament, so lying crooked and dead. The cast skin was thus. Out of this also stuck forth the *Aurelia*, as concerning the upper part. Again, out of the *Aurelia* almost the entire young Silk-worm had wrested it self; breaking the shell on the back-side, and in the wonted place, but the head stuck fast not to be pull'd asunder, as also the outmost parts of the belly. In the belly put forth was seen a great number of yellow eggs. For the female presently within the *Aurelia*, perfects her Eggs in her matrix, but they are unfruitfull till the male

male besprinkled them. I saw one lay eggs that had coupled with no male. Hence it was clear, how Nature puts off the old skin with the form of it first, and then passeth into a Nymph; the *Aurelia* whereof being again put off, out comes the *Necydalus*. This was a triple formed Monster, worthy to contemplate of. In this also you might observe the *Aurelia*, on that part the wings were marked, to be black and dark, as if it had been in hot smoke: then how much the female *Necydalus* had striven to come forth, was plain by the eyes that stuck out in the distances of the skaly circles. Sometimes the circles of the belly stick together by contiguitie, a thin skin coming between them. But in this the circles were so disjoynted, that the girdle of the juncture was larger than the circle. The top of the belly of the cast skin, and of the *Aurelia* were transparent against the light, so that you might exactly discover all about it. The end of the *Necydalus* came as far as the middle capacity of the *Aurelia*; the *Necydalus* was hairy about the back, though imperfectly, as also the wings were not yet of their full bignesse. And thus much for Monsters.

When the *Necydalus* is lusty, it is full of life, chiefly in the breast. For when the head and tail are cut off, it will move the wings strongly, and run with its feet, and that till the next day or longer. The female being cut in the belly, shews her matrix full of Eggs; that when 400 are laid, there are more behind. It seemed to be wrapped in a very thin coat. There appeared also some nervous pipes, like the passages of the guts. In the middle of the belly a little bladder was seen, containing an earthy juyce, that was yellow or russet colour. This bladder of it self had a continual *systole* and *diastole*. I thought the principle of life was there as in the heart. About the neck of the matrix there was a double white nervous knot, like to the bladder of animals; it was hard and shining, and that within the belly. I shall speak of the dug-like processions afterwards. There was one little knot that was bigger, and another that was lesse. The neck of the matrix is like to a pipe; to which being full of juice, there are joyn'd without on both sides two yellow knots like to brests. About the neck there is a circle with horny reins, that are broad, and blunter on the top, with which she takes hold of the genital of the male. The breast is fleshy. The head is membranous and horny. The horns triangular, with a white back sticking up, but the wings are let down on both sides, to make the Triangle: If you cut them off whilest they are alive, a kind of transparent juice comes forth of the back, as out of a pin-feather, and there appears a hole within. Thus I found the female, which I opened whilest she was living. When she was dead, there was nothing found in her belly but a notable cavity of her belly near to her breast; and then that vital humour in the bladder, though it now was no longer living; after that, the reliques of the matrix that was emptied, which were nervous and membranous. The upper parts of the male agree with the female. If you open his belly, you shall find much red matter within; and besides

besides that, a tallow matter full of nerves, to which the genital passage is fastned. He hath a peculiar genital, wanting other things that belong to the female.

The History of it is this; Under the tail environed with a long Down, there is a notable hole under a membranous circle, as hard as horn, that is divided as it were into two teeth. In the middle of this compasse there is the three forked neck of the genital part; with the extremities of it that are horny.

About this there are set reddish prickles (all the horny processes are red going toward black) the two uppermost are like hooks, of bended back like ankers, or like Goats-horns bent backwards. The single one beneath them is strait. These prickles are next the neck of the member. A little beyond in the middle of the compasse, there are three other small pricks; with so many bands he lays hold of the matrix of the female, and draws it to him; and holds it so fast, that if you would pull them one from the other, you would sooner believe the joyning together of the belly, and the circles should break, than the copulation should unloose, which I often proved.

Also from hence you may judge of the constancy of their copulation, for I saw them stick fast together whole Summer days, and at night, I know not at what houre, it is probable about morning; they parted asunder, and in the morning I found many Oval little Worms, and them lying quiet one from the other, yet they will stick together, being cast into cold water. When I sprinkled salt and pickle on the joyning of their tails they held fast; nor were they parted with water of vitriol added.

I drencht the male into the water, and I let the female stand dry on the brink of it, casting both vitriol and salt into the water, yet he lived and held his copulation. Then I left him so all night in the water, in the morning some hundreds of eggs were in the bottom of the water, and the young Necydali swam alive. I cut off another males head in copulation, yet he parted not. I divided his brest from his belly; he stuck fast till I drew him off by force.

The head and brest, as of divided flyes, live long; but the brest longest. This male cut asunder in copulation, had in his belly also, a yellow reddish matter, with some intestinal substance that is yellowish, and skinny. The male was bred the fourth of *July*, and died for weaknesse on the fifth, and being opened he had nothing else in his belly. Otherwise the Necydale will live 7, or 8, or more dayes. For, as I said, he is constant, so that when I broak with four strokes the beginnings of the wings and the brest, and then the belly somtimes, yet it lived as not hurt, though the Spirit were dissipated at length; the next day for the most part, if they be so dealt withall, they dye. The male hotly desires copulation; after a little stay, when he is come forth of the *Aurelia*, and that when he hath often unburdned his belly, and somtimes also when he hath sent forth no moysture; and this happens also in the female.

The

The male that is lively after the first dayes copulation, when he hath rested at night, the next day he seeks for the same female, or any that hee can meet with, so that he will couple three or four times.

The female also admits of the male as often, though she do not alwaies lay eggs. For she begets no eggs, unlesse she have some within her, though she copulate with the male. So soon as they uncouple, she presently lays her egs in order one after another, you shall see them thrust forth with striving and contraction of her belly, and be shut forth from the neck of the matrix put out, so that it will touch the pavement. I reckoned above 400, from one female, and almost 400, out of others; and these being dissected, had yet many more in their matrixes. What therefore *Vidas* writes of hundreds, that may be understood of lean little Necydalls, such as I see proceed from want of nourishment, others were almost three times as great. Some males do void their dung once before copulation, and again after their second copulation. Somtimes the males, loosed and not yet satisfied, will hinder the female that is about to lay eggs, and couple again with her, though the female copulates with him by force, and desires by contracting her belly, and by striving with her hinder legs, to be loose. So one before copulation laid 17, after she had once coupled and was loose again, 194, and then coupling again, after four hours copulation, she laid 245, then the male having an appetite, she cast moysture as out of a spout, and coupling again, and being freed, she laid above 20, eggs.

Those Egges that were laid on the fourth of *July* of a Citron-colour, on the 7th grew red, and after that, Lead-colour'd. I kept them in a box behind my Window, exposed to the afternoon-Sun. Those that were barren did never change their colour, but onely sank down.

In the *Necydalls* that are loose, you shall sometimes observe a trembling motion, like as if they had an Ague. Yet I say not, that they are aguish. But I think, that shaking comes by the alteration and promotion of the seminall matter, the vapour exhaling from thence, and rending the nervous parts. The last *Necydale* was a small one; and on the 24th of *June*, weaving a small case between two Mulberry leafs, he came forth the 13th of July, in which besides that, he had made a very small Silk case; This also was observable, That he came not forth of the basis of the case, but made a hole in the top, contrary to all the rest. Yet he was a male that feared not to copulate with a female that had thrice been coupled with a male before, and was almost dead. When he had twice copulated, he afterwards fainted. His wings were painted otherwise than the others were; for whereas the others are distinguished with lines, long and broad wayes, as with welts; this had four such Lead-colour'd lines broad wayes; but between the second and the third, toward the outvvard

outward borders of the wings, there was a small circle coming between, not exact, but wan, with a white spot in the middle.

But indeed Nature is so ingenious in this Insect, that when you have observed and writ many things, you have more to observe still. Therefore I conclude this History; and leave the rest to those that are studious in the Secrets of Nature.

OF

OF THE DESCRIPTION Of the Wonders of Nature.

The Ninth Classis.

Wherein are set down the Wonders of Fishes.

Plin. l. 9. Natur. Hist. c. 2.

THe common opinion is true, That whatsoever cometh forth in any part of Nature, is to be found in the Sea; and there are many more things, which are to be found no where else.

CHAP. I.

Of Hornback, Sturgion *or* Elops, *or the* Dace *or* Groundling.

THe *Hornback* Fish hath a chap under her belly; wherein *Rondeletius* saith, he saw her eggs ly. For cutting that fish at the beginning of Winter, he found many eggs in that cleft. Yet after she is delivered, it closeth so fast, as if it grew together; which is no wonder, as may be seen in the English Pikes. It is covered in so hard a shell, that a sharp sword can hardly cut it. The *Sturgions* when they are taken lament their destiny, and seem to intreat; and leaping in the nets, strive to free themselves. *Oviedus* and *Plutarch* say, that with their sharp backs they will cut the line, and free their captive fellowes. The *Dace* of *Phalera* is so soft

and fat a fish, that if it be held long in the hand, it will melt; or if many of them be carried in Ships, they will drop fat, which is gathered to make Candles with. *Apitius*, as *Suidas* reports, set the pictures of these Fishes, with Rape roots cut into long and slender pieces, boyl'd with oyl, and strewed with pepper and salt, before *Nicomedes* the King of *Bithynia*.

CHAP. II.

Of the Eele.

ALl know, that *Eeles* are found in many fresh Waters; yet *Nauclerus* writes, That in the *Danube* there are none; but in the *Rhein* there are. *Albertus* makes the cold of *Danubius* to be the cause thereof; and this proceeds, because it runs before the mouth of the *Alps* from West to East, and receives the greatest part of its water from thence. These onely, contrary to other fishes, do not flote, being dead, *Pliny*. The reason is given by *Aristotle*, from the small belly it hath, and little fat. The swimming of *Lampreys*, *Congers*, and *Muræna*s, that abound with fat, confirm this to be true. They are so lusty, that being devoured whole by a Cormorant, they will come forth of his guts, nine times one after another; and when they are grown weak, then he retains them, *Gesner*. Held in a mans bosome, especially great eels, will twist about a mans neck and choke him, *Cardanus*. On the Land they dye, if the Sun shine on them; otherwise very hardly, as you may see them living when their skin is pull'd off. *Athenæus*, *Ælianus*, and *Plutarch* do testifie, that in *Arethusa* of *Chalcidon*, there are tame ones, adorned with ear-rings of gold and silver, that will take their meat by hand. *Nymphodorus* reports the same of the River *Elorus*.

CHAP. III.

Of the Whale, *and the* Barbel.

THe *whale* is the greatest and chief of all Fishes. *Pliny* calls this the greatest creature in the *Indian* Sea, which was four Acres in bignesse; *Massarius* interprets this to be 960 foot long. *Nearchus* saith, that there are *whales* of 23 paces in length, and reports, that in the Island before *Euphrates*, he saw a *whale* cast forth of the Sea, that was 150 cubits. That Whale which was taken in the *Scald*, ten miles from *Antwerp*, Anno 1577, on the second day of *July*, was of a blackish blew colour: he had a spout on his head wherewith he belched up water with great force: he was 58 foot long, and 16 foot high, his tail was 14 foot broad; from his Eye to the top of his nose the distance was 16 foot. His lower chap was 6 foot, of each side,

side, armed with 25 Teeth, and there were as many holes in the upper chap where there were no teeth, yet so many might have stood there. The longest of his Teeth, was not above 6 thumbs long. A *whale* not long since was taken at *Sceveling*, a Village near the *Hague* in *Holland*, was 60 foot long. His head was about 3. cubits long, I saw him there. *Platina* observes, that the *Barbels* eyes are venomous, chiefly in *May*. *Antonius Gazius* found it so. For when he had eaten but two bits thereof, at Supper time his belly was so inflated, that he looked as pale as ashes; he was distemper'd all over, at last he fell into the cholerick passion. Nor did these symptomes abate, till the eyes were voided upward and downwvard.

CHAP. IV.

Of the Carp, *the* Clupæa, *and the* Conger.

THe *Carp*, saith *Gesner*, hath a little white hard stone in his head, near his tongue, and in the middle of his head a thick substance like to a heart, that is flexible while it is new; but afterwards it grows hard. Sometimes it is found 20 pound weight. *Jovius* saith, That there was one found in the River *Latium* two hundred pound weight. When the Female finds her self great with young, when the time of bringing forth is past, by moving her mouth she rouseth the male, who casts on his milt, and then she bringeth forth. In *Polonia*, broad *Carps* being put into a fish-pond by one, when the waters were frozen, though he sought them diligently, he could not find them; when the Spring came, and the waters were thawed, they all appeared, *Gesner*.

Clupæa is a great fish. In *Sagona* a River in *France*, when the Moon increaseth, it is white; but black when it decreaseth. When the body is but a little augmented, it is destroy'd by its own prickles. In the head of it there is found a stone like a barley corn, which when the Moon decreaseth; some think it will cure the quartan Ague, if it be bound to the left side, *Calisthenes Sybarita*, *citante Stobæo*. *Congers* contain their off-spring within them, but it is not equally so in all places, nor doth their increase appear in a fat grosse matrix, but it is contain'd in it, in a long rank, as in Serpents; which is manifest by putting it into the fire: For the fat consumes; but the eggs crackle, and they leap forth, *Aristotle 6. Hist. c. 17.*

CHAP. V.

Of the Dogg-fish.

THe men of *Nicea*, saith *Gellius*, took a *Dogg-fish* that weighed 4000 pound; a whole man was found in the belly of it. Those of *Massilia* found a man in Armour. *Rondeletius* saw one on the shore at *Xanton*, the mouth and throat were so wide that they would take in a fat man. *Bellonius* saith, that each side of the mouth had 36, teeth, wherefore some think the Prophet *Jonas* was swallowed by this fish: and that this is that they call the Whale, it being so vast a creature. The same *Bellonius* writes, that this Fish at divers times brings forth 6, or 8, young ones, and somtimes more, each of a foot long, perfect with all their parts, and oft times the young one coming forth there are eggs yet raw in the matrix, and some hatcht, lying in the upper part toward the midriff; and some of them are contained in the right turning of the matrix some in the left. In her Whelps, this is chiefly wonderfull, that they were covered with no secondine, and they are fed from some part of the Navell that hath Veins. For since saith he, she doth not put forth her eggs, and they are tied by certaine bands to the matrix, they seem to need no other coat than the *Amnios*; whereby the Whelp being now formed, and by a chink in the sternon, that passeth between the fins that are toward the gills, it receiveth nourishment from the matrix by a band, or the middle of it, that is so slender, as a Lute string; But this nutriment by that slender string is carried into a little bag, which you would say were the stomach, which is alwaies full of it, like to the yolk of an egge: the position of it is in the middle of the belly, and under the two laps of the Liver. And that this is true, if you cut a Whelp taken out of the dams belly, through the belly, you shall find the true stomack of it to be alwaies empty. For it takes and devours nothing by the mouth. But you shall see the right intestine to swell with wan colour'd excrements. If you take the young Whelp alive out of the dams belly, and do not hurt him, but cast him into the water, you shall see him to live and swim presently. *Rondeletius* observed the eggs to stick in the middle of the matrix toward the back bone; and when they increase they are translated into both the *Sinus* of the matrix. The forme of the eggs is like to pillows we sleep upon under our heads; out of the corners there hang long and slender passages which *Aristotle* calls hairy pores, and they are rowled up like Vine tendrels; if you stretch them out at length, they are two cubits long. When the shell breaks, the young ones come forth.

CHAP.

CHAP. VI.

Of Dracunculus.

D*Racunculus* is a fish with a great head, a compacted nose sticking forth, a little mouth without any teeth; without any opening at the gils; but in the place of this, above the head there is a hole on both sides, wherewith it takes in and puts forth water. It hath great eyes set above the head, the head-bone ends at the prickles that tend to the tayl. The Fins are exceeding long, considering the body partly Silver, part Gold colour'd. Those about the Gills, are Gold-coloured, and Silver colour'd in the root. These that are in the lower part; and next to the mouth, are longer than those that are next to the gils. On the back two stand up; the first is small, Gold colour'd, distinguished with Siver lines; the latter is very great on the middle of the back, not much unlike to butterflies wings, and is made of five bones like to ears of Barley, and a membrane. The former bones of radii are the longer, the hinder are the shorter, contrary to what it is in the membrane; which being as it were woven between all the distances of those *radii*, increaseth by degrees. The same also, is divers; for it is distinguished with Silver lines set between two black lines. This is hid in the middle hollow of the back, as in a sheath. There is also another Golden colour'd membrane from the tail to the Podex, excepting the fringes that are black.

CHAP. VII.

Of the Dolphin, Exocœtus *and the* Fiatola.

THe *Dolphins* see so exactly, that they will see a fish hid, in a hole, *Oppianus*. They are so swift that *Bellonius* observed one of them to swim faster than a ship could run under sayle, before the wind that blew strongly. Some make their Fins to be the cause of it, others their light body. The famous *Baudarcius* thinks the membrane between their foreyards being extended, serves them for sails. They love one the other so well; that one being taken at *Caria* and wounded, a great multitude of them came to the Haven, and departed again when he was set free. When the Marriners whistle, they will stay the longer about the ship but when a tempest riseth, the credulous Greeks say, if any man be in the ship that hath killed a *Dolphin*, they will all flock thither to be revenged. When then play on the calme Sea, they foreshew which way the wind will blow, and when they cast up water, the Sea being troubled, they foreshew a calme. *Plin. l.* 8. *c.* 35. *Thomas* thinks that exhalations rising from the bottom of the Sea, when a storm is at hand in Winter, is the cause of it; and he thinks that the *Dolphins* feel heat thereby; and so

so break forth the other. But since more fishes also perceive a tempest coming, *Rondeletius* thinks that they are affected in the water with the motion of the ayre, as those that are sick are wont to be, when the South wind begins to blow. *Exocætus* lives long on the dry land. The cause is, the plenty of ayr; which being he doth not draw it in, too largely, he is not choked by it. Hence it is, that an Eele will live a long time under ground, *Rondelet.* *Fiatola* is a broad plain fish, with a taile like to a half Moon, a fleshy tongue; contrary to all other fish, he hath no fins under his belly, and he is wholly without them. His Liver hath but one lap, without any Gall, his stomach is made like the Letter V, the lower part of it ends in a point; and there are so many Appendixes of hairs unto it, that they cannot be numbred.

CHAP. VIII.

Of Glanis *and* Glaucus.

WRiters report of *Glanis*, that it is a mighty and terrible fish; especially in the River *Tissa* that runs into the *Danube*. Hee riseth so boldly that he will not spare a Man. It is publikely said in *Hungaria*, that there was found in the belly of one, a hand with rings upon it; and peices of a Boy that swam in the *Danube*, that was devoured by it, *Comes Martinengus*. *Gesner* saith, he heard it of a learned *Hungarian*, that the same was taken in the River *Tissa*; it was 7, or 8, cubits long, and was carried in a Cart. This had layn hid in the River 16, yeares, neere the Kitchin of a Noble man; at last it was caught with a hook, when it had young ones to look to: when she found her self taken, she leaped forth; the fishers ran after her two miles, at last they wearied and took her, and carried her to a Town called *Nadlac*. There was in her belly a Mans head, with his right hand and three Gold Rings upon it. The *Glaucus* hath a spongy Liver distinguished into two laps, the left is the larger. From the right lap there hangs a little Gall bladder, from a thred three fingers long, so great as a pease; and it hath in the bottom of the stomack a kind of Apophysis, not to be seen almost in other fishes, besides five others in the *Pylorus*, that fence the stomack about.

CHAP. IX.

Of the Herring *and* Huso.

THat the *Herring* lives by water, *the Author of the Book of Nature* witnesseth; taken out of it, it will not live, as experience testifies. In his belly there is nothing found, for it hath onely one hungry gut. They swim together in such great sholes, that they cannot be

be taken for multitudes. When they see light, they swim in flocks, and so they are caught in the autumnal equinoctiall. They shine in the water turning their bellies upward, and they send forth such a light, that the Sea seems to lighten. It is a miracle that some related concerning the Inhabitants of the Island *Terra Sancta* of the *German* Ocean, namely, that in the year 1530, after the Virgins delivery, 2080 men lived by *Herring*-fishing there; but when they peevishly whipped one of them, they had taken with rods, these fishes did so diminish, that afterwards scarce 100 could live by that labour. The *Husons* have a grisle instead of a back bone, that hath a great empty hole, from head to tail as bored with a piercer. What *Elian*, *l.* 14. *c.* 25. saith of the *Autacea*, that in time they grow as big as the greatest Tunie fish in the *Danube*, and their abdomen is so fat, that you would say their paps were as great as a Sowes that gave suck, and are covered with a rough skin that Spears are polished with them, with a membrane so tied from the brain to the tail, that dryed in the Sun, it will serve for a whip, that must be understood of these *Husons*: For *Vadianus*, *in Epitome trium terræ partium*, writes, that he saw some of 400 weight: They are so fearful, that the least fish will fright them. They follow the sound of Trumpets, that they will come to the bank over against it. Lastly, they are so strong in the water, that if they strike the fisher with their tail, they will strike him out of the Ship; so soon as they put their heads above water, they grow weak. They will drink strong wine, and live many days, being drunk they are carried to strangers, they will drink 4. *Sextarii* of Wine.

CHAP. X.

Of the Pike *and* Luna.

A*lbertus* writes, that the *Pike* hath its stomach so joyn'd to the throat, that sometime it will cast it up for greedinesse of meat; but it hath many appendixes wherein the *Chylus* made is preserved, as *Rondeletius* observed. There was a very great one seen that had another great one in the belly; and this again had a vvater-mouse. Another was seen that had tvvo young Geese in it; another had a Moor-hen in its stomach. For great hunger it will feed on food at Land. It hath a natural Enmity with a frog. Hence it is that the Frog will oft times dig out his eyes. He cures his wounds by rubbing against a Tench, which he alwaies keeps company with. His jaw-bones beat into fine powder, given the quantity of an *aureus*, will break the stone. In *England* they cut off the belly of it two fingers breadth, and if they cannot find a Chapman, they will sew up the belly and put it into their fish-pond again vvhere Tench are. Though the cause may be attributed to friendship; yet it is better to attribute it

it to the clammy matter the Tench abounds with, by which he may heal his wound. A *Pike* of *Frederick* the Emperour was said to have lived 267 years in a Lake, that was found out by a brasse ring that he had under his skin in his gills, when he put him into the lake. It had a Greek Inscription on it; which is to this sense; *I am that Fish that was first put into this Lake by* Frederick *the Second, Emperour of the world, on the fifth of October. Conradus Celtes* saith, that ring was found upon that Pike, taken Anno 1497; as *Gesner* relates in *Epistola nuncupatoria.*

Luna is a fish exceeding beautiful, very small, broad bodied, of a blevvish colour; on the back it hath soft fins, which vvhilest it dilates in swimming, it makes a semicircle like to a half Moon, *Ælian. ex Demostrato.* Those that fish for Bream say, that at the full of the Moon it will grow dry and die; and, put on herbs, it will make them wither.

CHAP. XI.

Of Manaty, *and the* Whiting.

M*Anaty* is a great Fish taken in the Rivers of *Hispaniola*; His head is like an Ox head, or bigger: His eyes in respect of his body are small; he hath two thick feet, like wings in the place of gills, with which he swims, they are set about his head; he hath a thick skin, and no scales. He is so great that there needs a yoke of Oxen to carry him. Sometimes he is above 14 or 15 foot long, and eight hands thick; near the tail he is narrower, and as it were girt in, from which straightnesse the tail growes longer and thicker. He hath two stones, or rather bones in his head, so great as little hand-balls, or the bullet of a Crosse-bowe, and sometimes greater, as the fish is. He wants ears, but in place of them he hath small holes, by which he hears. His skin is like the skin of a shriveled Ox, a finger thick, ash-coloured, and thin set with hairs. The tail from that straight part unto the end of it, is all nervous. From that, cut into pieces, and then set five or six dayes in the Sun and dryed, and then boyled in a Cauldron, or rather fryed, much fat comes forth: for it all resolves into fat. It is good to fry eggs in a frying-pan. For it never grows rank, nor unsavoury. He is made tame, and will be taught like a dog; but *Franciscus Lopetius* saith, he will remember Injuries. *The petty King of* Caramatexum, *in the Island of* Hispaniola, *fed one of them 26 years in the Lake* Guaynabo, *and made him so tame, though he were grown great, as great as an old Dolphin; for he would take meat by hand; and when they call'd him* Mato, *which in their Tongue signifies Magnificent, he would come forth of the Lake, and creep to the house for meat, and then go back to the Lake again. Boyes and Men going with him, and when they sang, he seemed to be delighted with it: and he would let them sometimes ride on his back; he would easily carry ten at a time from one part of*

of the Lake to the other. But when a certain Spaniard *would make triall whether his skin were so hard or no, and threw a dart at him, he grew so angry, that if he saw any clothed in Christians habit, though he were called, he would not come forth of the water. After that, the River* Haibon *swelled extreamly and ran into the Lake* Guaynabo: *so he found his way to the Sea; and the people were very sorry that he was gon.* The *whiting* eats nothing, unlesse he see it is dead, *Ælian.* The male is very jealous. For he stays at home, and fearing his young ones should be caught, he stays to preserve them.

CHAP. XII.

Of Mirus, Mola, *and* Monoceros.

THe Fish *Mirus* is briefly described by *Ambrosius Pareus. In the* Venetian *Sea, saith he, between the* Venetians *and* Ravenna, *two miles above* Clodia, *Anno* 1550, *there was a flying Fish taken; very terrible and monstrous, four feet long; he had a very thick head, and two eys not set one against the other, with two ears, and a double mouth, a very fleshy nose green coloured, with two wings, and five holes in his throat as Lampreys have; his tail was an ell long, and in the top of it were two little wings.* Also *Mola* is a Fish, that was taken on the calends of *March*, Anno 1552, not farr from *Venice*; at first sight it seem'd rather a peice of Flesh than a Fish. It was round, it had a skin without skales or hairs. The mouth was so straight, that it was miraculous considering the greatnesse of the Creature. The eyes were large, stretching out, and greater than Oxe eyes. The gills were uncovered, fleshy, and bear; the fins on the sides were a span long. It had a very hard knot. The Jaws on both sides were fenced with a solid continued bone, the tongue of it stuck fast to the lower mandible, that he seem'd to have no tongue, the tayle was about 4, foot long. There were three fins on the taile, so that the taile with the fins, were 9, foot long. The Fish was 8, foot long, 5, foot high and more; and turn which way it would, it was so high: when it was unbowelled, the heart, liver, milt, were greater than of an Oxe; and it had one gut coming to the passage for excrements placed under the belly. In the bottom of this gut there was a kind of bottom, made as it were of bruised nervs, like saddle strings bruised. The Flesh of the creature was white as milk, and solid, as in a hog that is 5, or 6, fingers thick with fat, as in Whales. *Clusius* calls the *Monoceros* or *Unicorn*, a Fish; which the Dutch coming from the *East-Indies* brought along with them. Anno 1601. A Merchant valewed it so high that hardly any mony would buy it. From the outmost part of the mouth, unto the fins of the tail it was not much more than three inches, the middle of the body was little above an inch broad; from the top of the head, where a horn stuck forth between the eyes, unto the lowest part of the belly, which also ended in a sharp point, it was an inch and half broad; the body

was

was covered with a dark rough skin, moreover it had a little narrow mouth sticking out half an inch long, set with two bony little teeth, which seem'd divided into ten above, but beneath into fewer, unlesse they were broken out. The eyes that were put out, seem'd to have been very great, over which on the head, a little slender Horn stuck forth, that was four square, about an inch long, armed with ten pins like hooks tending downward, on both sides, from which to the fin, which from the middle of the back stretched out to the taile, there was an inch in length, pressed down like to a furrow, into which when he swims, he seems to incline his horn, *&c. Clusius, l. 6. exotic. c. 27.*

CHAP. XIII.

Of the Mullet *and the* Barbel.

THe *Mugil* is a most temperate fish, if he light upon another, he will not touch it, till he move the taile. If it move he leaves it, if it moves not, he preys upon it, *Ælian. l. 1. c. 3.* It is so salacious, that in *Phœnicia*, and the province of *Narbon*, at the time of copulation, that the male being taken out of Fish-ponds, and with a long line drawn through his mouth and fastned to his gills, cast into the Sea, and drawn back againe by the same line, the females will follow him to the shore, and the Males again will follow the Females at the time they bring forth, *Plin. l. 9. c. 13.* They are so fleet that when they are hungry they will cast themselves over ships in their way. The *Mullet* was formerly so noted for luxury amongst the Antients, that it was sold for a mighty price; and private *Romans* would often buy it for the weight in Silver, saith *Jovius*, if it were above a foot long. Also *Pliny* writes that *Asinius Celer* a Consul, was so proud of this Fish, that when *Claudius* was Emperour, he Merchandised with one of them for 8000 peices of money, that is about, 400 rich Dollers. *Macrobius, l. 3. Saturnal, c. 16.* adds more, that the Luxury of that age may be esteem'd the greater, because *Pliny*, saith in his time no *Barbel* was found, above two pound weight. *Scaliger* saith, *exerc. 226, s. 15*, that the Liver of it, lies next the left side, the milt next the right. But *Albertus* saith, that lust is extinguished by feeding on them, and it is so strong that it will make a Man that eats of it, to smell like it. *Athenæus* saith, that strangled in Wine, it spoils the Wine. *Pliny* saith, that if it be stale, it will make one vomit.

CHAP.

CHAP. XIV.

*Of the River-*Powt, *and Lamprey.*

THe River-*Powt* is so sweet meat, that in *Thuringia*, the Wife of one of the Earls of *Bichling*, is reported to have spent all her Estate, in feeding on them. They are chiefly commended before Christs-Mas day; but they are not good when they are with young, for then in some waters they are meazly. Some Hucksters, cut out their Livers, and turn them into the waters againe, having sewed up the wound. *Encelius* writes that the stomack of it, with the appurtenances hath a wonderfull vertue. *Let it be*, saith he, *never so old, in* Saxonie, *the women give it in drink, and it will draw out the secondine staying behind, after Child birth; and is of great concernment for all defects of the matrix.* They say also that oyle is collected out of the Liver, hanged in a glassy Vessel against the Sun, or in an Oven: this is thought to be so excellent for suffusions of the eyes, and for spots, that *Forestus in observat.* saith, it will miraculously make a dark sight clear. *Nicander* saith that *Lampreys* are wonderfull bold; for often coming forth of fish ponds, they will bite the painfull Fisher-men, and flye to the Sea, and will cast them headlong from the ships into the Sea; yet that they may be made tame, is apparent by the example of that *Lamprey*, which *Macrobius* and *Ælian*, & others do testifie; that *L. Crassus* who was Censor with *Cn. Domitius*, did adorn with Gold-earings and Jewells, and a brave neck-lace. This knew *Crassus* his voyce when he called her, and being call'd would swim to him; and when he offerd him any thing, she would leap with delight, and lay hold of it. *Crassus* wept for her when she was dead, and buried her honorably. And when *Domitius* taunted him sharply, saying, Fool *Crassus*, thou weptst for a dead *Lamprey*. He answer'd, I wept for the death of my Beast, but thou weepst for none, not when thy three Wives died; thou buriedst them, but lamentedst them not. *Pliny, l. 9. c. 23.* saith, that it will grow mad by tasting Vinegar. But that is a wonder that *Ælian* writes, *l. 1. c. 37*, That if you give them one stroke they will endure it, and stand senseless; but if you strike them again, they will be enraged.

CHAP. XV.

Of the Perch *and* Sea-Calf.

FIshermen in the Lake *Lemanus* have observed, as *Gesner* saith, that *Perches* will send forth a little red bladder that hangs out of their mouth, and they will escape by that means; for it will make them swim over the nets, even against their wills: But it is thought this proceeds from anger, that they fell into the nets. This falls out especially

especially when they drag them. But it is wonderful that this falls out onely in Winter. Their young ones do stick so close together, that the Fishermen in that Lake make them up in heaps. All of them have a measly Liver: *Georgius Mangoldus* writes it, and *Gesner* quotes him for it.

Sea-Calfs, when they sleep, snort so much, that you would think they lowed. *Rondeletius* saith, that the clammy humour that sticks in their sharp artery being agitated by breathing in and out, is the cause of it. They love the Sea exceedingly: For when their skins are tanned, if there be any hair left, they will turn as the Sea lies, by a naturall instinct. For if the Sea be troubled and tosse, they will stand upright; but if the Sea be quiet, they lye flat down. When *Pliny* would not credit this, he made tryall of it in the *Indian* Sea, and about the Island *Hispaniola*, he found it to be no fable, as *Cardan* saith. *Rondeletius* saith, That by their skin, changes are foreshew'd; for when the South winds blow, their hair sticks up; but when the wind is in the North they fall so flat, that you would think they had none. *Aldrovandus* saw one Calf taught by a Mountebank, who would rejoyce at the name of any Christian Prince, and would seem to mutter some words; but he was silent when the Turk or an Heretick was named.

CHAP. XVI.

Of the Scales, *and the* Indian Reversus *like an* Eele.

THe *Scales* do bring forth two or three young ones at one time; but at many times they bring forth more. Their eggs are first seen without a shell, in the upper part of their matrix. Some of them are as big as Hen egs, some lesse, some scarce so big as chich-peasen. *Aldrovandus* counted above a hundred in one of them; those that are next to be laid, are put into the lower part of the matrix, and are covered with a shell, wherein there is contain'd both the white and the yelk. When he much admired at this, and sought for the cause of it, he boyl'd hen-eggs, in which appeared no white at all, being but newly formed; and he observed the white severed from the yelk by the heat of the fire. Hence he found, that at first they lye confused, but are separated by degrees by heat, and the shell that compasseth them, is made of the grosser part grown hard. *Olaus, in tabula Septentrionali*, pictures forth a *Scale* in the Sea, defending a man from a kennel of Dog-fish, in a place a little beyond the borders of *Denmark*.

The *Indian Reversus like an Eel*, is a Fish of an unusuall figure, like to a great Eel in body, and it hath on the hinder part of the head a capacious skin, like to a great purse. The Inhabitants hold this fish bound at the side of the ship, with a cord, and onely let it down, so far

far as the fish may stick by the keel of the ship, for it cannot any wayes endure the ayr; and when it sees any fish or Tortoise, which are there greater than a great Target, they let loose the fish; he so soon as he is loose, flies swifter than an arrow on the other fish or Tortoise, and casting that skin purse upon them, layes hold of his prey so fast, that no force can unloose it, unlesse they draw up the cord a little, and pull him to the brink of the water. For so soon as he sees the light of the ayr he forsakes his prey, *Martyr*. *Rondeletius* ascribes to him the understanding of an Elephant, for he will be tame, and know what is said to him.

CHAP. XVII.

Of the Remora, *and the* Sea-Scarus.

THe Antients believed, that the *Remora* would stay Ships; and it hath been found true by examples of late. *Petrus Melardus* of *Bononia* reports, that the ship of *Francis* Cardinal of *Troas*, which he went by Sea out of *France*, was held fast in the swiftnesse of its course. Many have sought for the cause, but no man hath certainly found it. Some things are alwayes immoveable to do their office, as the Poles; some things in respect of their place, as the Center of the Earth, which naturally never moves. Contrarily some things are to move alwaies to do their office, as the Heavens; some things in regard of their place, as Rivers. So some things have a faculty of moving, as the Loadstone; some to stop motion, as the *Remora*. But since no reason can be given, why cold is an enemy to heat, so not for these things, why such things that have efficient principles in them of motion, do cause motion; and those that have principles of resting, should cause rest. *Keckermannus* seems to ascribe this to a cold humour that the *Remora* sends forth, that he freezeth the water about the rudder, *In Disput. Physica*.

Aristotle, l. 2. Hist. c. 17. saith, That of all Fishes the *Scarus* onely chews the cud. *Ovid* testifieth, that when it is caught in a net, it breaks not forth with the head foremost, but turns his tail, and breaks his way forth with that, often striking the net. They roast them in *Candie*, thrusting a spit through their mouth, and there the Fishermen eat greedily their maws, stuft with more delicate meat. They mash their Livers, that are very great, and without any gall, and their excrements also, together, adding to them salt and vinegar, *Bellonius*.

CHAP.

CHAP. XVIII.

Of the Sea-Serpent, *and the* Sturgeon.

IT is most certain, that there are *Serpents* in the Sea; and Histories shew, that they are of divers magnitudes. *Aristotle* reports, that in *Africa* they will overthrow their Galleys, and kill Men. *Olaus Magnus* writes, that about *Norwey*, when the Sea is calm, *Serpents* will shew themselves that are 100 or 200 foot long, and sometimes they will catch men from the Ships. *Schiltbergerus* a *Hollander*, hath described the Combat between the Sea and Land-Serpents. His words are; *In the Kingdom of* Genyck, *there is a City call'd* Sampson: *at what time I resided with* Ureiasita *King of the* Turks, *Water-Snakes, and Land-Serpents innumerable did surround that City for a mile on all sides: These came forth of the Woods that are many in the Countries adjoyning, and those forth of the Sea. Whilest these met, for 9. dayes no man for fear durst stirre forth; yet they hurt neither man, nor any other living Creature. On the tenth day, these two kinds of Serpents began to fight early in the morning, and continued till Sun-set, and the Water-Serpents yielded to the Land-Serpents; and the next day* 8000 *of them were found dead.*

Many suppose that the *Sturgion* will pine away in the *Albis*. *Gesner* writes, that *Johannes Fredericus* Elector of *Saxony*, bought a Sturgion that weighed above 260 pound weight, for so many Franks. He is so strong with his tail, that he will cut wood in sunder, strike down a strong man, and strike fire out of hard stones; and the same is done by the rubbing of those little bones that are prickly all his body over.

CHAP. XIX.

Of the Salmon, *and the* Turdus.

A *Salmon* about *Colen* is two cubits long, and they are greater amongst the *Miseni*; and at *Dessavia*, neere the River *Albis*, from 24, to 36, pounds weight. In *Helvetia* neere *Tigurus* they are taken somtimes above 36, pound weight. *Albertus* saith, the intestine of it, is divided into many parts like to fingers. *Gesner* writes, that he observed two passages from the very throat of one that he dissected: they stretched downward, one to the Maw by the Wezand, and the other was nameless. In the River *Mulda* neere to *Dessavia*, if the *Salmon* striving to overcome the precipice of the water, be frustrated at the second or third leap, he swims to the foard, and there he will lye hid under stones and gravel, and pine away: he is full of brasse colour'd spots, and his beck is bent like a great hook. In *Scotland* in *Autumn* they meet in little Rivers or places fordable, where they joyne bellies, and lay eggs, and cover them in the gravel; at which time the

the male is so spent, spending his milt and seed, and the female with her spawn, that they are nothing but bones and prickels and skin. That leannesse is infectious, for they will infect all the *Salmons* they come neere. It is an argument thereof, that oft times they are taken, and one side is consumed, the other not so. From their eyes covered in the sand, little fishes breed the next spring that are so soft, that untill they be no bigger than a mans finger, if you presse them with your fingers, they will run as from congeled moysture. Then first, as Nature leads them, they hasten to the Sea, and in 20, days, or a little more, it is incredible how great they will grow, when they come from the Sea, against a River that runs thither, they shew a wonder. For the Rivers that are straightned with Rocks, and Banks, on every side, and therefore run down swiftly, when they fall with a great fall, the *Salmons* do not presently swim forth by the Channel, but they fling themselves up crooked by force of the water, and so are carried in the Ayre, before they fall. That they are lively, is seen by their heart taken forth. *Robertus Constantinus* testifies that he saw the heart of a *Salmon* that was unbowelled, that was wet with a moyst *sanies*, and it lived after it was taken forth above a day. There are some different kinds of *Turdi*. Some have as it were some skiny yellowish Appphyses hanging down from their lower chop; somtimes they vary, and are all for the most part Gold colour, or colour of the Amethyst or blew. Their eyes are extreme great, and a black circle goes about a Golden Apple; a Golden circle about the black, and lastly a black circle goes about them all. The fins by the gills are wholly Gold colour, but of the brest they are all blew, except their nervs that are Gold colour'd. The fin that is from the *anus*, and that which is on the back, and taile, where they are joyn'd to the rump, are Gold colour'd, but sprinkled with little red blood spots, the rest are blew.

CHAP. XX.

Of the Torpedo, *and the* Tunie.

I Have nothing to say of the *Torpedo*, but that he benums the hands; and hence he hath his name. And he doth this so effectually, that before he is taken, he will do it by the net, or the rod. He useth this cunning, that covering himself with mud and dirt, he will catch little fish very strangely, *Plin. l. 1. ult. anim.* The *Tunies*, though they be caught in many places, yet chiefly about *Constantinople*; for when they come to the Islands *Cyaneæ*, and are past by the shore of *Chalcedonia*, a certain white rock appears to them, and doth so terrifie the *Tunies*, that immediately they put over to the farther bank; and being taken away with the swift current of the waters, the natural fitnesse of the place turns the course of the Sea to *Constantinople*, and the winding thereof, so that being driven thither by

by force of Nature, it is no wonder, that they fall into snares. They are also ingendred in the Lakes of *Maeotis*; and when they are a little grown, they break forth of the mouth of the Lake in sholes, and run by the *Asiatick* shore so far as *Trapezunda*; but because they cannot endure tempests and cold weather, whereby their eyes grow dim; they stay in a very deep place of the *Thracian* Sea, that harbours them, it is called *Melas*, and it hath hollow and muddy places fit to cherish fish in, and they grow till the Spring. They seem to understand the blowings of the winds. For *Pliny* saith, they stay for the North wind, that they may get out of the *Pontick* Sea, with the flowing of the water to help them. They enter into *Pontus* one way, and go forth another. For *Aristotle*, *l.* 8. *Histor. c.* 13. saith, they lye on their right side next the Earth when they go in, and come forth on the contrary side; for they turn on the left side; which, saith he, they are therefore said to do, because naturally they see clearest with their right eye; and duller with the left. The old Oracle of the Prophet *Amphyllus* in *Herodotus*, proves that they go forth in the night. And this is again confirmed by ancient medalls, such as *Bellonius* writes that he saw at *Paris*, on one side was an Ear of Corn; and on the other side the *Tunie*; and above this, the Moon with an Inscription of *Phillips*. They sleep so soundly, that they may be taken napping.

CHAP. XXI.

Of the Uranoscopus, *and the* Sword-fish.

Uranoscopus is a fish that swims alone, and eats flesh; so lively, saith *Bellonius*, that if you take out all his Entrals, yet he will move still: It is the greediest eater of all fish, he hath an apophysis hanging forth of his mouth, and with that he ensnares the fish. This shews he is an insatiable paunch, that if you cast meat to him, he will feed so long, till the meat come up to his throat.

The *Sword-fish* hath a beck on both chaps, but the lower of them is short and triangular; the upper is more bony and harder, and far longer, sometimes two cubits long. In the *Indian* Sea they grow so great, that they will pierce the sides of the strongest Ships, a hand and half in thicknesse sometimes, *Jovius*. *Gesner* writes from the relation of a faithfull friend of his, who saw a man when he sailed into *Syria*, that swam by the Ship side, and he was cut in the middle by the beck of this fish. He fears a Whale, and when he sees one, he claps his sword into the earth, or some place of the Foard that he can, and so forms himself like to a log; and the Whale neglects him, and swims by him.

CHAP.

CHAP. XXII.

Of some other Wonders concerning Fishes.

IN Minerals and Quarreys also fishes are found, especially if the places be moyst, though there be no water. *Theophrastus* observed this in many places of *Pontus*; *Eudoxus* in *Paphlagonia*; *Agricola* at *Orterantum*, beyond the *Albis*. There is a plain by the River *Narbon*, by this run the Rivers, *Iliberis* and *Reschinus*; there are fossil fish found therein. The earth is tender there, and brings much grasse; about two or three cubits under this, runs the water of the Rivers that hath dilated it self. If at any time they overflow, they fill the plain with fish from under ground, *Polyb. in Histor.* There are two sorts of them, some round like to Eels, but they want a tuff skin; they are scaly as Gudgeons, their flesh is hard, and not well savoured. The great ones are two fingers thick, the smaller but one. Those are four hands breadth long; these but three: they make a sharp noise. Apothecaries shut them up in glasses, and hang them down from a beam, and feed them with bread for a long time. Sometimes they come forth of Rivers that run in Fenny grounds, and come far into the Land by the veins of the banks, and sometimes into Cellars. *Theophrastus* writes, That in Caves they feel nothing, because their senses are stupified; but when they are boyl'd in a pot, and when they are dug up they will stirre.

In a certain River of the *East-Indies* there are fishes call'd *Tuberones*; they are so greedy, that one of them catcht at a man standing on the side of the Ship, and first bit off his foot, and next his hand, *Linschotten. in Navigat.* It is almost incredible, that the same man writes, namely, That a Ship coming from *Mozambique*, went backward 14 dayes, though the wind were good for it, and nothing to hinder it, and that was found by every dayes observation of the Suns heighth. And when the doubtful Marriners enquired for the cause of it, and thought they had been bewitched, at last a fish was found under the Ship, and they collected, that this fish carried the Ship on his back the contrary way against the force of the wind. For so soon as with much ado, they had driven this fish away, they sailed forward very well. The History is painted in the Palace of the Deputy-King of *Goanum*, with the Name of the Pilote, the Year and the Month.

Blefhenius writes, in his description of *Islandia*, That in the Island Sea there is a Monster, the name he knowes not, but they take it to be a kind of Whale; when he puts his head above the Sea, he doth so fright men, that they will fall down almost dead. He hath a head is four square, flaming eyes, and it is fenced about with black horns; His body is black, and set about with black feathers.

If

If he be seen at Night at any time, his eyes seem fiery, that all his head that is thrust above the Sea may be seen by it. *Olaus, l.* 12. makes mention of it, and saith, it is 12 cubits long. So much for *Fish*.

The End of the Ninth Classis.

OF

OF THE DESCRIPTION Of Naturall VVonders.

The Tenth Classis.

Wherein are set down the Wonders of MAN.

WHosoever thou art, that dost unjustly determine the condition of Man, *consider how great things our Mother Nature hath given unto us; how much more strong Creatures are under our subjection; how we can catch those that are much more swifter than our selves, that nothing that is mortal is not under our power. We have received so many Vertues, so many Arts, and lastly a Soul, swifter than the Stars; for it will out-run them in their motions, that are to be performed many years after, and in one moment penetrates into whatsoever it is intent about;* Seneca.

CHAP. I.

Of Man *in generall.*

HItherto I have described irrational living Creatures; Man followes next, of whom we shall speak in order, according to his actions, natural, vital, animal, and rational. And first of his proportion. This is so excellent and admirable, that it cannot be more. The body of *Adam* was made out of the Earth, and ours of 3. small drops of seed, and as much blood, poured forth like milk, and framed like to cruddled cheese; of the same matter, are so many and so divers parts made. The whole structure consists

consists of above 200 bones to support it, and as many cartilages; all the joynts are sineered with; all are joyn'd together with many ligaments, and cloathed with innumerable membranes; the vast mass of the members are watered with above 30, paire of nervs, as with little cords, and all the parts are sprinkled with as many arteries as with water pipes, filled with forming blood and vital Spirits; the empty places are filled up, and the entralls covered, with almost 400, Muscles, and flesh of divers sorts, as with flocks: and lastly all is covered about with skin. The Image of God is in it (his mind represents the same) and it hath included in it, the forces and temperament of all the creatures. You shall find many men that have an *Ostrich stomack, many that have the Lyons Heart, not a few have the heart of a Dogg, many of a Sow; and infinite there are, that are like the Asse by nature.* *Alexander the Great*, had such a symmetry of humours, that his spirits, and humours, and also his dead body, smelt as sweet as natural balsom; because in man as in the Centre, as in a knot, or little bundle, the original and seminary cause of all creatures lye bound up. Vegetables are nourished and increased by the balsom-like Spirits of Mineralls, animals of vegetables, and by them of mineralls; but man, for whom all things were created, is nourished and augmented by the balsamick spirits of animals, vegetables, and mineralls; wherefore there is reason that he should consist of all these. Wherefore in man there do flowrish, and produce fruit, that are messengers of health or sicknesse, both the balme, violets, Germander, namely the Spirits of the Heart, Brain, and Liver: the Nettle, Wake-Robin, Crowfoot, as Pushes, Scabs, Creeping sores; Also there are wrought in man mineral separations, that appeare in paroxysms, of Vitriol, Alum, Salt, of Gemma, of the Colcothar, Tartar; as the Leprosy, Elephantiasis, Morphew, Cancer, discovering themselves in several Tinctures and Signatures. Nor are aqueal generations wanting, as Gold, Silver, Tin, Copper, Iron, Lead; the Heart, Brain, Liver, Reins, Stomach. There are found in our bodies Mines, out of which stones are dug, the stones of the Bladder and Kidneys, not to build but to destroy the house. The head is the Fort of mans mind, the seat of reason, the habitation of Wisdom, and the shop of memory, judgment, and cogitations; possessing the highest place doth it not represent the uppermost and angelicall part of the World? You have the middle and the Cælestial part in the Thorax, and in the middle belly, exactly set forth. For as when the Sun riseth, the upper parts are enlightned, and all the lower parts are enlivened; but contrarily, when the Sun departs, they grow cold, and tend to ruine: so by the perpetuall motion of the heart, and by the vital heat thereof, all things flourish, and there is a plentifull harvest of rejoycing, to be perceived; but when that is darkned by cares, sorrows, fears, and other Clowds, all the parts are debilitated, and at last dye. Who sees not the sublunary part of the World, expressed in the lower belly? In it, are contained the parts that serve for nutrition, concoction, and procreation. Perhaps you will want the Dukedome of the Planets in this little world. Behold, the flowing marrow of the brain represents the moysning power of the Moon, the genital parts serve for *Venus*, the Instruments of eloquence and comelinesse do the office of witty *Mercury*; the Sun and the Heart hold the greatest proportion. Man's Liver, the fountain of good vapours, is compared to beneficiall *Jupiter*; the bladder of the Gall, contains the fiery fury of *Mars*; and the loose spungy flesh of the Milt, which is the receptacle of melancholique humours, doth perfectly represent the cold Planet of *Saturn*. And if you please to proceed farther, I can say boldly, that the Elements, Seas, Winds are here shadowed forth. The spirits of Mans body do set forth Heaven, the quintessence of all things. The four humours express the four Elements; Hot dry cholet represents the Fire; blood-hot and moyst, the Ayr; flegme, cold and moyst, the Water: melancholy cold and dry, the Earth. So the belly of Man is the Earth, fruitful of all fruits: The hollow vein, is the Mediterranean Sea; the Bladder the Western Sea, into which all the Rivers discharge themselves, and the superfluous salt which is resolved, is collected. He hath the East in his Mouth, the West in his Fundament; the South in his Navel; the North in his Back. *Europe, Asia, Africa* and *America* may summarily be described in Man. Wherefore *Abdalas* the *Barbarian* said well, that the body of Man is an admirable thing; and *Protagoras* call'd Man, *The measure of all things*. Theophrastus, *The pattern of the Universe, and Epitome of the world*. Synesius, *The horizon of corporeall and incorporeall things.* And lastly, we may truly cry out with *Zoroastres, O Man! the workmanship of most powerfull Nature*; for it is *the most artificiall Master-piece of Gods hands.*

CHAP. II.

Of Nutrition.

Article 1. *Of the harmlesse feeding on venomous things.*

IF we regard Histories, we can hardly doubt, but that venomous things may by custome become nutrimental: For many learned men having written thus, they ought to be of credit. *Avicenna, Rufus*, and *Gentilis* speak of a young Maid, who was fed with poysonous creatures from her tender age; and her breath was venom to those that stood by her. *Albertus* writes, That at *Colonia Agrippina*, there was a man that held Spiders for his daintiest meat. One *Porus*, a King of the *Indies*, used poyson every day, that he might kill other men. There was one who killed venomous creatures that bit him. *Avicenna l.8. de anim. c. 2.* It is a known History of a young Maid fed with poyson, with which the *Persian* Kings kill'd other men. In *Hellespont* the *Ophyogenes* feed on Serpents: One that was delighted with

with the same food, when he was cast into a vessell fill'd with Serpents, received no harm. *Pliny* and *Athenagoras* of *Greece*, could never be hurt by Scorpions; and the *Æthiopians* that are Inhabitants by the River *Hyaspis*, made brave cheer of Serpents and Vipers. *Galen* saith, That an old Woman of *Athens* eat a great quantity of Hemlock, which did her no hurt. *Hypoth. the Empirick* writes, that another took 30 drams of it, and received no harm; and he saith further, That one *Lysis* eat 41 drams of *Opium*. The *Thracian* Dame made gallant victualls of handfulls of *Hellebor*. Lastly,

King Mithridates *could not poyson'd bee,*
He drinking poyson oft, grew poyson-free.

If you search the cause of it, you shall find divers. First is, every mans natural property, by reason of which, Stares feed on Hemlock; Sows on Henbane, with delight. Then there is a certain proportion of poyson; for this changeth the power of the poyson, and the disposition of the subject. Again, the strength or weakness of the body. *Conciliator* saith, he saw four men feeding on venomous meats, one dyed suddenly, two were dangerously sick, and the fourth escaped. To this adde the force of the composition, and the quantity; the variety of the time and place wherein they are collected. So *Trassius Mantinensis* gathered his Hemlock in the coldest places, that he might sooner kill men. *Theophrastus* shews, *l. 9. hist. Plant.* that at *Chios* there was a certain way to compound it, to make it effectuall. One stung by a Scorpion, may live many dayes; and one stung by Ammodites may live 7 dayes. Chersydrus kills in 3. days; a Viper in 3. hours; a Basilisk suddenly. Lastly, the history of a woman that sought to poyson her husband, proves, that poyson growes more effectuall by being mingled with poysons of the same kind; and lesse, by being mingled with poysons of a contrary kind. Also it is certain, that hot poysons cannot be conquer'd; for Sublimate by its extream corroding cannot be concocted by nature; and *Napellus* kills by its extremity of heat.

Article 2. *Of the eating of other unusuall Meats.*

N*Ancelius l. 3. Analog.* writes of a Maid delighted to feed on dung; and he relates, that a certain Noble-man did greedily sup up the liquid dung of Maids. *Fernelius l. 6. Pathol. c. 3.* tells of a Maid that eat quicklime as great as a mans Fist. *Trincavellus* tells of one, *l. 7. c. 5.* that eat threds out of Garments. *Lusitanus c. 3. cur. 86.* of one that eat Bombasse and Wooll. *Marcellus Histor. mirab. l. 4. c. 1.* of one that eat Lizards. A woman that was fifty years old eat *Tartar*, *Nicolaus ferm. 5. tract. 4. c. 36.* *Camerarius* speaks of another eat hair; This may happen in a particular disease, which in women with Child is called, μαλακία, in Virgins and others, κλτο. For the cause is a vicious naughty humour, impacted in the coats of the stomack, or bred

bred in the same by ill diet, or coming thither from the matrix. Hence for the three first months especially, it happens to women great with Child, when they vomit; and the Child consumes not much. It troubles maids, when their courses are stopt. But it is hard to say, how such an appetite should proceed from this cause; and it is better to ascribe it to a hidden quality than to commit an absurdity in what is manifest. But what is reported of one *Lazarus*, that he would eat glasse, stones, Wood, Living creatures, and Live-fishes; and we were told by the famous *Winsemius in prælection. anatomic.* that a Country man in *Frisland* would do the same for money, that seems to proceed from the fault of the nerves. For in him, when he was dissected, the fourth conjugation of nerves, that is produced in other men for the benefit of their tast, neither came to his tongue nor palate; but was turned back to the hinder part of his head, as *Columbus* observed, *Anatom. l. 15.* Some also think a man may be nourished by smells, and some Histories say, it hath been done. *Rondelatius de piscib.* saith, that one at *Rome* lived 40, yeares only by the Ayre, and *Laertius* reports that *Democritus* the *Abderite*, a Philosopher lived four days by smelling of bread steeped in Wine, that he might not profane the feasts of *Ceres*. *Cardanus l. 8. de varietate rerum. c. 41.* saith, that men may live longer only by contemplation. Lastly, *Megasthenes* writes that at the farthermost part of the *Indies*; from the East about the River *Ganges*, there is a Nation call'd *Astomores*, people that have no mouth, their body is all hairy, and they are clothed with the mosse of boughs: they live only by the Ayre and sents that they take in by their nostrills, they take no meat nor drink, but only the diversity of smells from roots and flowers, and wild Apples, that they carry with them in long Voyages, that they may not want sweet smells; and if the sents be too strong a little, they easily are killed thereby, *Pliny l. 7. c. 3.* Yet surely sents being but qualities can nourish no man; they may out of all question refresh and cherish the brain.

Artic. 3. *Of prodigious Eaters.*

THere was a Woman once at *Alexandria*, as *Athenæus* sets it down; he saith, *She eat 12 pound of flesh, four chævice of bread that is more than 12 pound; and she drank a gallon of wine and upward.* *Maximinus* the Emperour would drink often in one day 9. Gallons of Wine of the Capitol measure, he eat 40, pound of flesh; and as *Cordus* saith, 60 pound, *Capitolinus* is my Authour; now an *Amphora* is 8, congii, that is about 9, Gallons. One *Phagon* in *Vopiscus*, who was in great respect with *Aurelianus* the Emperour, eat so much in one day, that he devoured a whole Bore, a hundred Loafs, a Wether and a young Hogg; and he drank more than an Orca of Wine with a tubbtel put into it: now an Orca was a Vessel of Wine greater than an *Amphora*. What shall I say of *Clodius Albinus* the Emperour? He, as *Capitolinus* writes, devoured so much fruit as is incredible to speak: for

for *Cordus* saith, that *he eat 500 dried Figs which the Græcians call* Callistruas, *for a breakfast; and a hundred Peaches of* Campania, *and ten Melons of* Ostia, *and 20 pounds of Grapes of* Lovinium, *and a hundred Gnatsappers, and 400 Oysters.*

Uguccio Fagiolanus being a banish'd old man, did glory at the Table before *Scaliger* at *Verona*; that when he was a young man, he eat four fat Capons, and so many Partridges, and the roasted hinder parts of a Kid, and the breast of a Calf stuft, beside salt fish, at one Supper To this appertains that prodigious man, in the time of *Cæsar Maximilian*, who eat a raw Calf, and a Sheep, at one meal. *Suidrigellus* Duke of *Lithuania*, sate 6. hours at Supper, and fed on 130 dishes, *Sylv. l. 2. Comment. in Pannormit.* The Epitaph of *Thymocreon Rhodius* was this:

Here Lies Timocreon Rhodius, *who had skill*
To eat and drink, and rail, and speak much ill.

Now over-great appetite, if it proceed from a præternatural cause, it is called *Bulimos*; and if it be with vomiting, it is call'd dogs appetite. And it proceeds from some gnawing humour in the stomach, or from a consumption of the whole body, or by reason of the operation of the cold ayr; or, lastly, from Worms. *Brutus*, when he went from *Dyrrachium* to *Apollonia* through the Snow, had like to have got this disease; and a woman that cast up a Worm of twelve fingers breadth long, lost her great stomach; and so did another that voided 100 worms. *Brasavolus* testifies, that this disease was epidemical at *Ferrara*; and Anno 1535, it was so in *Borussia*; *Leonellus Faventinus* writes it. *Gemma Frisius* speaks of a woman not very aged, that could not live one moment without eating. He gives the cause to be the greatnesse of her Liver, and the prodigious peculiar temperament of it. *For her fat being increased unmeasurably, and her heat choaked, her belly was opened, and about 20 pounds of fat were taken out; her Liver was found to be sound, swelling with blood and spirits, but extream red, and huge great, that by its very weight it pressed the vitall parts,* Frisius l. 1. c. 6. Cosmocrit.

Article 4. *Of monstrous drinkers.*

IT is no hard matter to find men that fail in drink, and rowe in their cups. You see that drunkennesse abates in no part of the World, and *as if we were born to consume Wines, and they could not be poured forth, but through the bodies of Men.* What *Seneca* foretold, *That a time should come when drunkennesse should be honour'd; and to drink abundance of wine, should be esteemed Vertue,* is come to passe in our dayes. He is counted best, not he that can speak knowingly of Philosophy, but he that can drink off many great cups, *Galen.* And not onely wine and waters, but smokes and fumes are introduced to make men mad. Yet all go not an equal pace, some will win the garland. In

In that publick drinking for a wager before *Alexander*, there was one *Promachus* that drank four Congii, that is, 40 pound. We read the same of *Proteus* of *Macedonia* in *Athenæus*. *Novellius Torquatus* of *Millan* drank 30 pints at one draught, *Tiberius* the Emperour standing by to see this wonder, *Plin. l. 14. hist. Natur.* And which is more wonderfull in him, they are *Pliny* his words, *He wan the glory of it, that is very rare, for he never fail'd in his speech; nor did he vomit or void any thing any way when he drank; nor did he sleep: he drank most at one draught, and drank many more little draughts: and he was faithfull in the businesse, not to take his breath when he drank, nor to spit any out; nor did he cast away any snuff that could be heard dash on the pavement.* *Cicero* the son, drank two gallons. *Bonesus*, as the words of *Spartianus* confirm, drank more than any man. *Aurelianus* said often of him, *He was not born to live, but to drink.* Yet he long honour'd him for military affairs. For if any Embassadours of barbarous people came from any Country, he drank with them to make them drunk, and so in their cups he would find out their secrets. He drank what he pleased, and was alwaies sober; and, as *Onesimus* the writer of *Probus* his Life, *He was wiser in his drink.* This was farther admirable in him, that so much as he drank, the like quantity he pissed, and his belly or stomach or bladder were never burthened. A certain man drank 6 gallons at a marriage of a Noble-man, in the dayes of *Lipsius*. *Nicetas l. 3. Histor.* writes of *Camaterus Logotheta* that drank two gallons.

Article 5. *Of some Secrets concerning Drunkennesse.*

DRunkards differ in their manner of their drunkennesse; for some are drunk before others. And some when they are drunk fall backwards, some forward, some sing, some quarrel. Writers give many reasons for this: They that are soonest drunk, are not accustomed to Wine, or they have drank more then their ability, (for naturally one cannot go from one extream to another without inconvenience) or they have narrower veins that are too hot, or have a thicker constitution of body, or they prate too much when they drink. For speaking out, augmenteth natural heat that is inflamed by wine, and fills the head with vapours, and heaps up abundance of them; which being corrupted by continuall motion, are distributed through the whole body, distending the eyes, inflating the temples, offending the brain. The same reason serves for such who at Feasts eat hot bread, drink strong wine, and eat abundance of meats that are salt, and talk continually. For all these things increase thirst exceedingly, and makes men drink out of measure. Also divers sorts of men eat bread wherein there is contain'd Nigella seed, Darnell, when they eat brown bread, or mingled with Millet seed. For these cause heavinesse, and a passion like to drunkennesse by grosse vapours, *Canonher. l. 3. de admirand. Vini c. 1.* Hitherto appertains refined wine, poured from the Lees. For this, though it be weaker to preserve it self, and having no lees, will sooner grow sowr, (for the

Lees are the root to preserve the Wine) yet because it is moyster, and pierceth into all the Veins of those that drink it, it sooner inflames the blood, makes men drunk, and overturns reason. *Jason Pratens. de morb. cerebri.* But women come not into this consideration, nor such as drink sharp Wine after sweet, or such as delight in new Wine. For women are of a very moyst body, are often purged, have very open passages, *Macrob. in Saturnal.* Yet because they have a weaker brain, and narrower sutures of their skull, it is better to say with *Alphonsus Lupeius*, that they are seldom so drunk that they rave, but they are often sottish in their drink. Sweet Wine stops the pores, through which the Vapours of sharp Wines, might ascend to the head.

Lastly sweetnesse so resists drunkennesse, that Physitians cause such that are too much inflated with Wine, first to vomit much, and then they give them bread with honey to eat, to repell the fumes that remaine of the Wine; *Macrob. Saturnal*: What concerns their divers gestures, that is founded in the diversity of the parts and humours. Fumes from Wine flye to the forepart of the head, and fumes of Beer and Ale to the hinder parts. Those that are drunk with this, fall backwards, but these with Wine fall forwards. Those are clamorus and talkative, these sleepy and forgetfull. *Lemnius l. 2. de occult. c. 19.* They see things lesse a farr off, because the optick Spirits are made more thick. The sanguine tempers laugh; the cholerick prate and are mad; the phlegmatique grow stupid; the melancholique sad. And because all of them have their opticks troubled with Vapours, they all see a divers colour'd circle about the light of the Candle. *Gordon Libro. Medic. part. 2. c. 21.* If they weep they delight in so doing. *Rhodig. l. 12. c. 4.* Moysture makes them stammer; for by this the tongue is extended as a sponge with water, and being swoln and thick cannot speak plain. *Jacob Pratens. de natura vini.* Moreover experience hath found that Coleworts resist drunkennesse exceedingly, chiefly raw, and above all the red Cabbage. *Lemnius l. 2. c. 11. de occult.* But *Galen* saith, *L. 2. de composit. medicam. c. 5.* hot Cabbage macerated, and bound about the head. And so great is the antipathy between it and Wine, that if one powre Wine to it whil'st it boyls, it will not boyle much. If you desire a reason, some say, that by eating of it, grosse Vapours ascend, that thicken the Vapours of the Wine. *Aristotle* saith that it draws the moysture of Wine down to the belly, and cools the body. *Weckerus* attributes the same force of the Ivy, and *Alexander* saith that smallage, nuts, Lupins will do the like. *Pumanellus* saith, powder of Pumex-stone drank in water will do it. *Gratarolus* speaks the same of Saffron, *de vini natura c. 5.* *Africanus*, of a Goats Lungs. *Amandus de Sancta Sophia. l. 1. de veris secretis*, attributes as much to new Milk drank fasting. *Platerus prax. medic. Tom. 1. c. 3.* prescribes pap made of Milk and Barley meal taken with Vinegar. And he describes a certain powder thus: *Take Colewort seeds 1, dram; Coriander seed 5, drams; camphir, 10, grains: make a powder, and give one spoonfull in sharp Wine.* But the dung of swallows

lows powdred and drank, will make a man sober, *Pliny.* Rue eaten, *Marula.* The humour that first drops from the Vines at the beginning of the Spring; bread that is made of darnel, dried and made into powder. But that is superstitiously said, That whosoever shall rehearse this verse, before the first glasse of Wine he drinks,

Juppiter his alta sonuit clementer ab Ida.

shall never be drunk.

Artic. 6. *Of Bread.*

THe chief foundation of mans preservation and nutriment, and the staffe of life, is bread, well ordered. Hence some say, *Panis*, *Bread*, comes from *pasco* to feed; some take it to be so call'd from *Pan*, that is, *all*, because it answers all meat. It is made of divers things. The *Æthiopians* made it of the seed of *Orindium*. The *Ichthyophagi* made it of fish dried in the Sun. *Plin. l. 7. c. 1.* The *Ægyptian* shepherds made it of the Lote-Tree seed. *Pliny, l. 2. c. 21.* Neer the Mountain *Vogesus*, about the Town *Burcken*, there is a fine white meale dug forth of a Mountain; the Inhabitants make Bread of it, and all sorts of Cakes, *Claudius Diodatus, l. 2. Panthei Hygiastici. c. 4.* But I say, that can be no true meal, but it must be miraculous. I think it is some thick juyce that proceeds out of the earth, and in time is congealed by heat of the Sun, and so becomes fine meale. Divers Medicaments are made of bread. Aqua-vitæ, the most noble treasure of life is thus made. *Take the best bread cut into thin sippets, what is sufficient; put them into a hot Furnace, that by degrees they may dry, like red Bisquit: then bruise it grosely, and put it into a wide cauldron, and for every pound of this Bread, put in five pound of Fountain water; flowers of hops one handfull, of anniseeds one ounce: boyle them together till one part be consumed, let them coole a little, and then powre them forth, and pass them through a basket or sieve, then powre on some leaven, first dissolved in warm water; shut this up in a Vessel, and let it ferment and work like new wine: lastly part it as it grows clear, distill it, and rectifie it like Spirit of Wine.* Some distill the crumbs of white bread newly taken forth of the Oven, putting it into glasse Stills, four ounces of it are given successfully against the Epilepsie. See *Deodate* how the quintessence may be extracted.

Artic. 7. *Of wonderfull fasting.*

THough nourishment be necessary for our life, yet there have been many, that have lived along time without it. In Saint *Augustine* his days, one lived 40, days without eating any thing. Another, in the time of *Olimpiodorus* the *Platonist*, for so long as he lived, he neither fed nor slept, but only stood in the Sun to refresh himself. The daughter of the Emperour *Clotarius* fasted eleven years.

Petrus

Petrus Aponus saw one fasted 18 years. *Rondeletius* saw one fasted ten, and afterwards became a fruitfull Mother. *Hermolaus* knew a Priest who lived in health 40 years without any thing, but by sucking in the Ayr. Lastly, one *Nicolaus Helvetius* under *Waldensis*, Anno 1460, after that he had five Children by his Wife, lived a solitary life, and neither ate nor drank in 15 years. Some dare affirm, that he fasted 22 years; and *Bocatius* saith, that this party, or another, fasted 30 years. *Mago Carthaginensis*, and *Lasyrtas Lasionensis* lived without taking any liquid substance all their lives, *Athen. l. 2. c. 2.* One that *Cœlius* speaks of, that was by Country of *Tomos*, did the like at *Naples*; and *Aristotle* speaks of *Andronis* of *Greece*.

I will not speak of *Constana* and *Bernenses*, two Maids, in *Quercetanus l. 2. Diætetica c. 6.* nor the Maid of *Colen*, in *Albertus l. 7. de animal*; nor her of *Hay*, in *Namelius*; nor yet of the *Aunt of Timon*, in *Athenæus l. 2.* nor yet of the French-man that came from his Pilgrimage from *Jerusalem*: Yet there is no man, I think, but will say, that all these things are preternatural. The cause is, in what takes away, or augments the appetite; and that is done either when the meseraique veins do not attract the *Chylus*, and draw it out of the stomach; or when their sucking is not perceived in the orifice of the stomach. *That*, is caused by stopping of the veins, or by a hot distemper, or want of evacuation of the excrements that abound; or when the orifice of the stomach is beset with flegmatick humours. *This*, either from the inhibition of the influence of the animall spirits, and the fainting of them, or from the distraction of the faculty, or from the distemper of the stomach, and stupidity of it. But because death doth not follow this taking away of the appetite, there must be some other cause besides. Some make this to be, the relaxation of the nerves in the orifice of the stomach, as *Langius*; others think the Ayr drawn in, feeds the spirits, as *Quercetan*. But since they do not shew the cause of life, and this opinion is yet doubtful; and they, which make the cause to be abundance of flegmatique humours, confesse there are plenty of them in cachecticall bodies; *Sennertus* his Judgment pleaseth me best, who sayes, that such bodies are almost immortall; and little or nothing exhales from them; because they consist of a tenacious humour well compacted and growing fast together, and that will not yield to the action of heat that feeds on nutriment; and their heat is most mild and gentle, and requires not much nourishment, *Instit. l. 2. Part. 3. Sect. 6. 2.*

CHAP.

CHAP. III.

Of Concoction.

Article 1. *Of the* Liver *and* Spleen.

NUtrition hath attraction, retention, expulsion, concoction subordinate unto it. *Concoction* is either in the Stomach, the Liver, or the Spleen, or in other parts. In the first the *Chylus* is made of the meat, the fæces and watry excrements are cast forth: In the second, blood, yellow choler, whey, and urine are sent forth: in the third, dew, glew, and that which is call'd Cambium, some thicker, some thinner are thrust forth. As for the *Liver*, there was none found in *Mathias Ortelius*, a Merchant of *Antwerp*. Though it be one entire body in Man, yet in bruit beasts it is divided into many Laps. In one Maid it was found with three laps. In *Carolus Sabaudus* it had four little coats, *Francisc. Puteus, l. 5. Apol.* In *Colet*, the outmost fibres of it were adorned with hairy tufts sticking forth, *Camerar.* When the heat of it growes weak, a Dropsie followes.

I will say a few things of the *Spleen*; There was a woman at *Paris* was found to have none, *Holler. in observ.* And *Pliny l. 11.* saith, That in *Cawnus*, men are born without it, *Natur. Histor. c. 73.* Hence the common people think it may without hurt be cut out of Poothen and Horses. *Fallopius* observed 3. that lay one upon another. *Fosbrius* observes two at *Montpelier*: Where it increaseth, the body decayes. For then it sucks away too much *Chylus* from the Liver. Hence *Trajan* call'd the Spleen the Treasury: For, as this growes rich, the common people grow poor: so, as the Milt increaseth, the body decreaseth. One was seen so great, that it weighed above 20 pounds, *Columb. l. 15. Anatom.* A Marriner had a Milt 23 pound weight, and his Liver eleven pounds. In *Jacobus Antonellius* it was no bigger than a Pigeons Egge; In one of *Spoletum* it was empty like a purse.

Article 2. *Of Humours in generall.*

THere is scarce any question to be made, but that the Humours cannot be defined by the onely force of the Elementary qualities. For Man lives upon Plants, and they contain in them sharp, bitter, and sometimes Minerall juices. They are alter'd indeed by that internall *Archæus*, which is naturall heat; but when they are unmingled, unfit, and robustous, they cannot be changed.

Hence it is that Urines are made somtimes that will corrode cloth; and somtimes blood falne from the nose will do the like. *Doring. l. 1. de medicin. et medic.* Somtimes things are cast up so hot by vomit, that they will boyle in the bason, and dye Silver Chargers with a brasen colour, that no washing, nor strong rubbing can take off, *Schenk. obs.*

obs. l.3. Sometimes things yellow like Saffron are voided, so sweet; that they tast like liccoris, when as they should be bitter. *Cardan, contra, 9. l. 2. tract. 5.* reports that a woman that had drank Poyson, had a vein opened, and no blood would run forth, but a green juice as from herbs, to 9. ounces in quantity; and a mans blood was, like to milk. The humours have wonderfull conveyances in the body, and certain periods. The blood doth grow vigorous, saith *Soranus Ephesinus*, (which like the Evangelists, doth measure the spaces and course of day and night by equall hours) from 9 a clock at night, till 3. a clock in the morning, in which time the blood in Man is concocted and elaborated; Thence is the mind of Man cheerfull at Sun-rising. Yellow choler is concocted from 3. in the morning, untill 9 a clock; in which time the naturall faculty separates choler from blood, and sends it to the gall bladder: Thence a man is prone to anger. Black choler is elaborated from 9. a clock of the day, till 3. at night. In this time the Liver is purified, and made clean of grosse blood; and this, Nature, as some say, ordains for the Spleen. From hence is the mind of Man darkned. Flegme is concocted from 3. at night till nine: For then Supper being ended, concoction begins to be made in the stomach, and the meat to be liquified. From hence Flegme swimming upon the stomach, and carried to the brain, makes a man sleepy. But if they be over-much, and joyn'd one with another, then they do not keep their times. Moreover, the *Persians*, by reason of their moderate exercises being children, grew so dry of body, that they neither spit, nor did blow their noses, nor were their bodies pust up, *Varro in fragment.*

Artic. 3. *Of Blood.*

BLood is stopt by some, wonderfully: *Gesner* notes, that *Frederick* Duke of *Saxony*, gave a Toad that was thrust through with a woodden spit, and well dryed in the Sun, and wrapt in Sarsnet, for them that bled at the nose, to hold in their hands till it grew hot, and so the blood was stopt. A hens chicken will do the same, if the part hurt be thrust into that place where Cocks use to be gelt, a hole being cut open. *Platerus l. 2. de vit. c. 5.* proved it, and found it so. A noble Matron stayd bleeding at the nose, by holding a bit of white chalk under the ring-finger, on that side the nostrill bled, *Forest. l. 13. c. 10.* *Osorius* writes also of *Nahodaguca*, a Prince in the Kingdome of *Malacca*, who was hurt with many wounds and fell down, yet not one drop of blood came forth; when he was stript, and a bracelet of gold was taken off, then it began to run. That stone was said to have power to stop blood, that was set in it. It is taken out of beasts which the *Sinenses* call *Cabrisias*, *Osor. l. 7. de reb. Afric. et Indicis.* That it comes forth of a vein cut, the distending of the vessels is the cause. For the continuall motion of the arteries added to the veins, doth presse the veins: but if the veins be opened, the blood comes forth, because there is nothing to hinder it. Hence when a vein

vein is opened, if one swoond, the blood stops. For the vitall spirit doth no longer distend the vessels, *Bartholin. Probl. 5.* It is observed, that when a man is killed, it will run forth if the murderer be present; but when a man is drown'd, it runs forth when friends are present. When you ask the cause, it is either motion and agitation that opens the orifices of the veins; or Sympathy and Antipathy: Therevenge of the person is put for an Argument. *He that is grievously wounded, becomes the Assailer,* saith *Rhodigin. Thought greedily desires revenge; choler burns suddenly for it; the blood is presently inflamed with it, and runs with all its force to the wound, both to foment it, and to revenge. The spirits fly together, and by an inbred laightnesse do fly about the Author of it, by whose heat they continue, and remain for some time,* Rhodig. 30 Antiq. c. 12. It was of old thought to be a remedy for the Falling-sicknesse, to drink man's blood yet warm. It was the Devil's Invention, who delights in the slaughter of men, and to do them mischief. The Wife of *Marcus Antonius* the Philosopher, fell in love with a Fencer; the Wizards were enquired of, and they gave counsel to kill him, and that *Faustina* should drink his blood, the next time she lay with *Cæsar.* It was so done, and her love was ended, but the boy born was of a fighting disposition, and destroy'd the Common-wealth, *Jul. Capitolin.* *Langius* reports, that the Son of a certain shepherd was faint-hearted for robberies; but when he had eaten a crust of bread dipt in mans blood, he was flesh'd for all villany. The *Cahmani* had this custom, that at Feasts they would open a vein in their face, and mingle the blood that ran forth with wine, and so drink it, holding it the end of their friendship, to taste one the others blood. (But these things belong to the description of *Wonders in Customes*) There is compounded a Lamp of life and death with mans blood, whereof *Ernestus Burgravius* writes thus: This Lamp or Light once lighted, burns continually, so long as that man, of whose blood it was made, doth live, and at the very same moment, that he dies, it will go out. Know also, that if the flame be bright, rising high and quiet, that Man feels nothing that troubles his Mind or Body: But if it be otherwise, and the flame rising, twinckles diversly, or is lower and clowdy and troubled, it gives thee a sign of great sorrow and other passions. For perpetually from the cœlestiall influences bred with the Microcosme, and from the naturall inclinations (since that blood is nourished by the blood of that man, and the body of the same from the substance of this very blood, from which blood was as it were mutually taken to prepare it) that flame shines according to the state and habit of that man, in prosperity or adversity, and so shews it self. *Sennertus* and *Deodate*, call this *Pyromantia.*

Artic. 4

Artic. 4. *Of Urine and Reins.*

MAny things perswade us, that there is somthing else contain'd in *Urines* beside the watery substance. For in diseases they are made plentifully, though men have drank nothing. And it is observed that creatures that drink nothing, will make water. Physitians foretell many things by their colours, thinnesse, and thicknesse. And Chymists find salt in Urine resolved. But whatsoever that is, it is call'd *Serum*, and it is the superfluous salt matter in meats and drinks, and is not fit for nutriment. Salt is hid in meats, to season them; and that plants are full of salt, you may find by distilling them. It is very well known that divers kinds of salt may be fetched out of Urines. *Ægineta* saith, that artificiall *Chrysocolla* is made with Urine. Nitre is made of earth, moystned with the Urine and dung of living creatures. *Baccius* shews the way: His words are. *Saltpeter is made now a days by industry of a most sharp Lixivium, that drains forth from old dung, or rotten ordure, from the matter of Churchyards, and some earths that are rotted together, the sane water being often powred on in modden Vessels. This Lixivium is boyld in great Cauldrons, and Saltpeter is made, long fibres growing hard in the bottom like to salt. Hence* Russus Ephesinus *said; that Urine was a nitrous humour that falls into the bladder. de appel. corp human. c. 36.* The *Arabians* write that in the Urine of those are bit with mad dogs, the pictures of dogs may be seen *Abenzoar*. But that seems to be attributed to the force of the Venom; because it changeth exceedingly a mans constitution, and makes it like to a doggs. For the humours are so corrupted by it, that some little creatures like to puppies are bred in the body, *Sennert. l. 2. p. 2. s. 2. c. 4.* Truly we find Worms to breed in the bladder; for a woman voided one a span long; and a noble maid, voided many as great as wiglice, *Schenck, l. 3. obs.* Also *Charls Count of Manssfield*, voided one like a Magpie; *Duretus*, like a Hog-louse. But one that had the stone of the bladder voided two, with a sharp head, with horns; the back and belly were crusty, and they were black, and like Tortoises, but that their belly was red, *Pareus l. 19. c. 3. Holler. de morb. intern.* Another voided a living Scorpion; another, shell-fish, *Schenk. observ.* All know the urinary passage, yet somtimes other things are voided by it. The Sonne of *Bonimus* made water a little beneath the glans; and a Maid of a noble family at the *Hague*, urin'd her Navel. An old Vine dresser had it coming forth at an Ulcer of his left buttock; a Souldier Voided it by his hip and thigh; others by their belly. *Schenk. in obser. Fernel. l. 6. Pathal. c. 13.* As for the *Kidneys*, *Gemma* saw 3, or 4, *Lib. 6, Cyclogn. Wolphius* and *Columbus, l. 15. Anatom.* saw but one. They were seen fastned to the Liver by *Holtzapfelius* at *Auspurg*. The fat of them is somtimes found so hard and congeal'd that it is almost as hard as a stone, *Eustach. de Renib. c. 45. Saxonia* saw the substance of them resolved into little peices of flesh. Stones also are bred in them of a fæculent matter, mingled with a salt

salt and stony juyce. Somtimes they are very great. *A Father general of the Carmelites had a stone in one of his Kidneys, which growing from a large root, was divided into eight branches, according to the forme of the Channels of the urinary Vessels, and the number of them*, this excellently resembled the stock and branches of Corall; moreover the flesh much contracted and diminished, with the Veins, stuck so fast to this stone all about; that it had lost its own form, and seem'd to be a thick skin that covered it round. *Eustach. ad c. 44. de Renib.*

Artic. 5. *Of Marrow.*

PLinie writeth, that a Serpent is ingendred of the Marrow of the back-bone of a man. The truth of this testimony appeareth by experience, and is made manifest by an example, that we read in *Plutarch*. For the King of Ægypt having made the dead body of *Cleomenes* to be hanged up, and they that watched it having spied a great Serpent winding about his head, and covering the face in such sort as no bird that preyes upon carrion durst soare thereabouts; the people of *Alexandria* running thither (saith he) in troupes to see this spectacle, called *Cleomenes* a demi-god, and the sonne of the Gods: untill such time as the best in knowledg among them had called to mind, that as of the putrified flesh of a dead Oxe, there grow Bees; of a horse, Wasps; and of an Asse, Beetles: so likewise, when the matterie substance which invironneth the Marrow, gathereth together and thickneth, Serpents are ingendred thereof. *Camerarius* saith, he hath oftentimes seen in a well-known place of *Germany* a yong gentlemans tombe, who was buried in a Chappell where his predecessors lay: It is said, that he was the faireft yong man of his time; and being troubled with a grievous sicknesse in the flower of his age, his friends could never get so much of him (no more than *Agesilaus* friends could get of him) as to suffer himself to be represented in sculpture or picture, to serve for posteritie: only this, through their importunitie he agreed unto, that after he should be dead and some daies in the ground, they should open his grave, and cause him to be represented as they then found him. They kept promise with him, and found that the Worms had half gnawne his face, and that about the midriffe and the back-bone there were many Serpents. Upon this, they caused the spectacle (such as they found it) to be cut in stone: which is yet at this present to be seen among the armed Statues of the Ancestors of this yong gentleman. A notable example of the fragilitie of mans body, how faire and goodly so ever it be; and that all the splendor and magnificall shew that may be seen therein, is nothing else but rottennesse and Wormes-meat: as the Author of *Ecclesiasticus* saith; *When a man dieth, he is the heritage of Serpents, Beasts and Worms.* Which is confirmed by a certaine inscription graven upon a tombe at Rome in Saint *Saviours* Church, where are two Latine Verses to this effect.

when

When in my bodies prison I was pent,
I was compact of shamefull filth and ordure:
Now to this lower dungeon being sent,
To crawling Wormes I serve for food and pasture.

Saint *Bernard* aymed at the same when he said, That man was nothing but stinking seed, a sack of excrements, and the food of Worms.

Of bodies dead ingender Worms, of Wormes a rotten stink,
And then as horrible a state as mind of man can think:
This is our very case, for all our pride and hie conceit,
Nor can we stay the stroake of death when he our life doth threat.

So then, nature ingendring of the carrion of our bodies, a Serpent, or a Dragon, it seemeth to shew unto us (as it were with the finger) the author of our calamities and corruptions; as also the enemie that hath an unreconcileable warre with us: to wit, that old dragon and serpent, who not only layeth traps for the living; but besides never leaveth rending and devouring those that be dead and buried.

Article 6. *Of Sweat.*

Aristotle reports, that some have sweat blood. And *Fernel. l.6. de part. morb. c.4.* observed, that sometimes blood will run forth of the ends of the veins that end in the skin, in many places. There was one, that every month about a pound of blood, run forth of a vein opened, by the skin, near the lower part of the Liver; when it was voided, none could discern where it came forth, *Beneven.* Lastly, the President of *Mons Marinus*, when he was besieged by *Augustus* the base son of the Prince of *Salucia*, and was called forth as it were to parley, and then held prisoner, and he was threatned with death, if he yielded not up the place, was so frighted with this undeserved death, that he sweat blood all over his body, *Thuan. l.11: Histor.* The causes are two, saith *Aristotle*. The thinnesse of the blood, the rarity of the skin, and the opening of the pores. To this may be added, the weaknesse of the parts that serve for nutrition, if the retentive faculty hold not, and the expulsive cast forth strongly. Anno 1486, there was a kind of disease call'd *the English Sweat*; It first fell out in *England*, and in *Germany* Anno 1529, it so spread, that it brake off the Treaty of *Zwinglius* and *Luther*. The force was so great, that it killed men in 24 hours, or else they recovered if it did breathe forth by sweat, *Thuan. lib. 6.* Physicall observations shew, that one recovered who went into a very hot oven, and sweat violently. But as many as eat of the bread was baked in the same oven, were all consumed by a consumption, *Riqu. de febre sudor in Epist.* And though Sweat, when other signs are good, be a Token of a good *Crisis*,

sis, yet a cold sweat is certainly mortall, for it comes from the decayd heat of the solid parts. When as it breaks forth from a great feavorish heat within, it is cooled in the Externall parts that are now void of all heat. Whence our *Hippocrates, l. 4. Aphor. 37.* saith, *If cold Sweats come forth upon a hot Feaver, they signifie Death; but if the Feaver be mild, a Chronicall disease.*

Article 6. *Of insensible Transpiration.*

As in the great World, vapours are drawn forth from moyst places by the heat of the Sun and the Stars: so in Man, the little world, we must grant the same is caused by force of the inward heat. Yet lest they being united in mans body, should cause distemper, and make Feavers, God made mans body open and full of pores, through which the vapours breathe out, and that so finely, that the sense can scarce perceive them. Yet *Sanctor. Sanctorius*, did observe and weigh them as fine as they are. Hence grew, that Physick is called *Statica*, wherein amongst other Aphorismes these are contain'd:

I. *Insensible transpiration is far more, than all sensible transpirations put together.*

II. *If the weight of the body begins to increase more than usually, without any greater addition of meat or drink, or retention of sensible excrements, there is a stopping of the pores.*

III. *Perspiration that cures the body of a disease, and of that unprofitable weight, is not that which is made by sweat, but by that invisible breathing forth, which in Winter in one naturall day can send forth above 50 ounces.*

IV. *After sleep, before he voids any sensible Excrements, a man feels himself lighter; for he is so, about 3. pounds weight more than ordinary.*

V. *In one night commonly a man voids 16 ounces of urine, more or lesse, 4. ounces of excrements by siege, and above 40 ounces by insensible transpiration.*

VI. *Many men void more in one naturall day by insensible transpiration, than they do by their belly in 15. dayes.*

VII. *If cold fall upon the Ayr in Summer, and a man drink hard that day, it will hinder a third part almost of insensible transpiration; and if sensible transpiration do not help, it will easily dispose a man to corrupt Humours or Cachexia.*

VIII. *In Summer temperate bodies are lighter than in Winter about three pound weight.*

IX. *In Summer if cold fall upon heat, the same day about one pound of excrements are kept in, and cannot breathe forth.*

X. *From the Autumnall Equinoctiall, to the Summer Solstice, we breathe forth above one pound weight lesse every day; and from thence to the Vernall Æquinox we begin to breathe them forth more freely.*

XI. *The stomach fill'd with meat, if it perform the first concoction whilst we*

we sleep, the perspiration of that night commonly amounts to 40 *ounces; but if it do not end it, it comes to about* 18 *ounces.*

XII. *Meats that nourish much, except Wether-Mutton, from Supper to Dinner, use not to breathe out above* 18. *ounces.*

XIII. *Plenty of meats, that nourish but little, in one night may breathe forth above* 40 *ounces in most men.*

XIV. *Wether-Mutton is easily concocted, and will breathe forth; for in one night it will come forth by insensible transpiration* 3. *ounces more than other ordinary meats.*

XV. *Unquiet rest hinders at least* 3. *ounces of ordinary transpiration.*

XVI. *I have found that insensible transpiration in many men will breathe forth in* 7. *hours* 40 *ounces, when they sleep; and* 20 *when they wake, or thereabouts.*

CHAP. IV.

Of Increasing.

Article 1. *Of* Gyants.

THere are two sorts of *Gyants*. For they are either people of a Country; or else Monsters, by errour of the matter, or of the Agent. *Goropius Becanus* denyes that ever there were, or are any of the first kind. But the holy Scripture gives testimony, and there are evident examples, and modern experience confirm it. For the Spies, *Numb.* 13. *v.* 33. say expresly, *we saw Gyants the sons of Anak, which come of the Gyants, that we seemed in our eyes like to Grashoppers, and so we were in their eyes.* And what are the names of the *Emims*, and *Zamzummims*; but titles of Gyants? *Procopius* testifieth, that *Justinian* wondred at the *Goths* of old for their vast bodies. Some think they had their names from *Gygas*, *Bartholin. de Pigmæis c.* 5. *Mela. l.* 3. *c.* 4. writes, That amongst the *Indians* there were men so tall, that they rid on the greatest Elephants instead of horses. The *Patagones* in *America* are certainly known to be 12. spans high. *Pigafetta* saith, he saw there amongst the *Canibals* a Gyant that was taller than other men from the girdle upwards. But about the straights of *Magellan* near the Antartick Pole, he saw men whose neck was half as long as a mans Arm; and he affirms it exceedingly. We may place *Goliah*, and such as are spoken of, 2 *Sam.* 27. in the number of the last kind of Gyants. *Augustine* saw the grinding tooth of one, that, cut into pieces, would make a hundred teeth of ours, *Lib.* 15. *de civitat Dei, c.* 9. Some were found in *Drepanum* in *Sicily*, each of them weighed 3. pound, *Fulgosius l.* 1. *c.* 6. *Lucius Flaccus* and *Metellus* in the *Cretian* Warre found some of their bodies that were 30 cubits. In the same place the earth opening by an Earthquake cast up one 40 cubits high,

high, *Plin. l.* 7. *c.* 26. In another place amongst the waves there was a Maid seen 50 cubits long, and she was 4. cubits broad between the shoulders, she was clothed in a purple garment, *Vincentius histor. Natur. l.* 31. *c.* 25. But what saith *Bertius* of another in his description of *Zealand*. *Our Chronicles relate, from* Gulielmus Bonus, *Earl of* Holland, *unto the Marriage solemnities of* Charles *the fair, King of* France, *a woman was brought, of an unusuall stature, born in* Zealand, *in respect of whom very tall men seemed but dwarfs; and she was so strong, that she would carry two barrels full of beer in both hands, each of them weighing* 40 Italian *pounds; and a beam that* 8 *men could not lift, she would weeld at pleasure.* He that desires more, let him read the Book of *Johannes Cassio de Gygantibus:* I onely mention some of the chief, commonly they that feed abundantly do not grow so beautifull. The choaking of the natural heat, is the cause, with abundance of moysture. The same happeneth in diseases, *Lemnius in occult.*

Artic. 2. *Of Pigmies.*

Pigmies have their name from their cubital stature. For πύγων is the distance from the bending of the elbow to the top of the little finger. The *Hebrews* call them *Gammadim*, from *Gomed* a cubit. There were two sorts of them, some very little ones brought up in Princes Courts for sport; born by accident as Monsters are. Some are a people that live some where, or else they did formerly. I need not prove the former. Under *Theodosius* there was one so small in *Ægypt*, that he seem'd no bigger than a Partridge; he was very wise, and had a pleasant voyce, and spake clearly, shewing the marks of a generous mind, he lived 20, years. *Nicephor l.* 12. *Eccles. histor. c.* 37. *Johannes Cassinon de Gygant, p.* 66, saw two at Lyons, one of them had a long beard, and was of a very beautiful countenance, some of our Chamberfellows saw at *Falconburg*, a mile from *Leyds* the last yeare, a female a cubit long, *There was a Dwarf at the Marriage of the Duke of* Bavaria, *who was compleatly arm'd, with a short spear, and his sword girt about him, and he was hid in a Pie that one could not see him, and he was set upon the Table, and he brake the crust of the Pie and came forth, and drawing his sword he danced like a Fencer, and made all the people laugh and admire him,* Plater. *l.* 3. *Observ.* At *Dresda* in the Castle of the Elector of Saxony there is to be seen the Skeleton of a dwarfe, not a cubit high, with so solid and well proportion'd bones, that one would think they were the bones of an *Embryo*. *Bartholin de Pigm. c.* 6. In *Marchia* and *Lusatia*, there was an entire skeleton found, with the skull, 2 foot and 3 fingers long, *Leonhardus Turnheuserus in German Pisone memorat. l.* 7. *c.* 84. Now because Coffins of the dead were often dug up in those parts, the people think the Pigmies make them under ground. In Winter they lye 20, foot deep, about Whitsontide one cubit, it is the opinion of the people. Multitudes of Authours may perswade us to beleive that there was a Country of Pigmies: amongst the rest *Ctesias Indicus* writes thus: *Middle India* hath

hath blackmen, that are called Pigmies, and they speak the same language, the rest of the *Indians* do; they are very small, for great part of them are but half a cubit high, and the greatest of them is not above two cubits. Their haire hangs as farr & somtime below their knees, & they wear their beards longer than any men. And so soon as their long beard is grown, they use no clothing, but they let their haire fall backwards much below their knees, and their beard covers their fore-parts. Then when they have covered their whole bodies with haire, they girt themselves about with them instead of garments. Also their Yard is so thick and so great, that it will come down to their ankles. They are also flat nosed and deformed. Their sheep are no bigger than our Lambs, their Oxen and Asses are like our Rams in greatnesse, their Horses and Mules, and other creatures to carry burdens are no bigger. The King of the *Indies* hath 3000 of these Pigmies in his company. For they are most cunning Archers. They are very just, & use the same Laws the other *Indians* do. They hunt Hares & Foxes, not with Dogs, but with Crows, Kites Rooks, & Eagles, There is a lake amongst them that is 800 furlongs about, upon which, when the wind troubles it not, oyle swims which some of these men take away from the middle of it in boats, swimming through it with little ships, and this they use. They use also oyle of *Sesama* & nuts, but the best is taken out of that Lake. So far he describes them. *Antonius Pigafetta* found some of them in an Island of the *Moluccas*, but *Jovius l. 3. de rebus Muscovit.* saith, they are in the Island *Caphi*, beyond the *Laplanders*. Lastly *Odericus de reb. Indic. l.* 3, saith, he saw some but three hands breadth, and that they begat Children at five yeares old.

CHAP. V.

Of Generation.

Article 1. *Of Seed.*

THe *Seed*, the most noble principle in Generation, resists many injuries. That appears even from this, that the essence of many things can remain entire in many changes, & under another form. Let a Goat be fed with many purgative herbs; let the nurse drink the Goats-milk, and it will purge the child that sucks her: yet in the stomach of the Goat those herbs were changed into *Chylus*, and the *Chylus* was made blood in the Liver, and from blood milk in the Udder; when the nurse drinks this milk, again *Chylus* is made of it in the stomach, blood of this *Chylus* in the Liver, milk of this blood in her breasts. *I received it from one*, saith *Sennertus, worthy of credit*, de consens. et dissens. *that from the froth of a mad dog that stuck upon a cloath, little creatures were bred like to whelps.* It is wont, being retain'd in Virgins and lusty Widows, to get a venomous quality, by corrupting in the matrix, and it will cause strong symptoms. For a malignant vapour

vapour flying up, presseth the Intestines, the Liver, and the Midriff, and makes the breathing so small, that it can hardly be perceived. When any thing hangs over the parts of the privities or Navel toward the *Diaphragma*, and ascending to the orifice of the stomach is perceived, there followes presently panting of the heart, aking of the heart, swimming of the head and palenesse. Whilest this continues, a woman falls suddenly down, and is deprived of breathing, speech, and sight; (many have layn so 3 dayes; others have been buried, as though they had been dead; *Vesalius* dissected one to his great dishonour) and sometimes a woman is affected with the Epilepsie, Convulsion fits, and raving; and, as the malignant vapour fall on this or that part, so is the disquieted. Sometimes wonderfull voyces are heard out of their bellies, crying of frogs, hissing of Serpents, croking of Crowes, crowing of Cocks, barking of dogs; which *Gemma Frisius l. 1. c. 6. Cosmocrit.* thinks they do vary as the passages and the spirits that break forth are proportioned. The Daughters of the President of *Roan* did alwaies laugh, and would not cease from it, *Holler. de intern. morb.* It happens sometimes, that imagination being hurt, they grow sick of melancholy, and think the Devill is present; also they fall into the fury of the womb, and wandring melancholy: this principally is of force in *February*, and is heaped up in winter. When they are so affected, they will speak divers things, and divers wonders in strange tongues. Physitians say, they will desire to lye with those they meet; they will talk in the night, and hide themselves in tombs, *Henr. Petreius Nosolog. Harmon. Discours. 3.* We read, that the Virgins of *Miletus* affected with this disease, offered violence to themselves. The order of formation is this; First of all, the membranes that surround the Infant are made; For in these the nobler part of the seed is included, and the heat of the spirit and seed is covered after: After this all the spermatick parts are delineated; and as their dignity is, so is each of them made in its order. Yet some are perfected sooner, some later. Hence at the first time of conception there appear 3. bubbles, as it were, swelling with spirits, which are the rudiments of the Brain, Heart and Liver, and an innumerable company of threds, that are the beginnings of veins, nerves and arteries, and, as it were, the foundations of the solid parts, *Sennert. l. 1. Institut. c. 9.*

Artic. 2. *Of menstruous Blood and Milk.*

THe coldness of Women, & generation is the cause that all blood is not wasted in them, yet because they are not alwaies with Child, it is then collected in the vessels about the matrix, and is cast forth every month, that they may not feel the burden of it, wherefore Physitians call them monthly terms. They begin to be cast forth, when they are young Maids, the bottom or neck of the matrix determins the manner of the flux. It is observed that a fresh maid, with great brests hanging down, which had hair under her arm-pits, and on

on her privities, had her courses five yeares together without any hurt *Schenk. l. 4. observ.* Nature if it cannot find the ordinary way seeks another passage. A Maid of *Saxony* had her Terms come forth of her eys. A Nun had them came forth of her ears. *Pareus* his Wife had them by her nostrills: A Maid at *Sturgard* vomited them up: A Maid in the Island *Chios*, spit them up. *Amatus* speaks of some that voided them by their Teats: A woman of *Trent*, voided them by her Navel; and which is wonderfull, a Nun voided them every month by her little finger, and ring finger of her left hand. *Ludovic. Mercat. l. 1. c. 7. de Mulierib. affect.* All have not this flux uniforme; Those that are of a good habit have them twice a yeare without hurt, and some not so much as once. And *Hortensius* saith they have them before they conceive. *Institut. medic. l. 1. c. 28.* They that are born from Mothers that were long before they had their Terms, are commonly sickly. So it was with *Francis the 2d. King of France, who never had a snotty nose, and seldom spit, but a great deal of filthy excrements came towards his eare, and purged his brain that way, and at last the corruption grew Mortall. Thuan. l. 23. Histor.* And *Pliny* affirms that there is a venemous quality in it. For *l. 7. c. 15. l. 19. c. 1.* he writes thus, *You shall not easily find any thing that is more monstrous than the terms of women: new Wine will grow sowre by them, Corn will wither by touching them, plants will dye, the buds of Trees will be burnt by them, and fall; Looking-glasses grow dark by their very looks. The edge of Steel and the brightnesse of Ivory is mad blunt, swarms of Bees dye, Brasse and Iron will presently rust, and a stinking smell corrupts the ayre: Dogs run mad that tast them, and bite deadly with venome incurable. Also it is reported that the Ant, the smallest creature is sensible of this, and will not eat the Corn hath touched them, not come there any more.* Milk hath been somtimes found in Mens brests. For *Cardan de subtil.* testifies that *Antonius Benzus*, being 34, yeares old, pale, and with a thin beard, fat of body, had as much Milk in his brests as would suckle a Child. They that have seen the new World, affirm that all the men almost have abundance of Milk. *Aristotle* saw a hee Goat in *Lemnus*, that afforded so much milk as would suffice to give a kid suck. *l. 3. histor. animal. c.* That it will somtimes grow hard as a stone, see *Schenkius observat. Mathæus Medic. quæst, centur. qu. 14.* denies that Virgins have any. *Heurnius ad l. 5. Aphor. 39.* affirms it. *If Virgins*, saith he, *abound with this blood, and their termes be stopt, unlesse this be voided by letting blood, or vomiting, or bleeding at the nose, or emrods, or a bloody dysentery; and if their brests be hotter and rubbed, it may incline somtimes that way and be turned into milk. Hippocrates in the same Aphorism. If a woman have Milk, and be neither great with Child, nor delivered, her courses are stopt. Yet we confesse, this hapneth but seldom, since Nature ordaind the Milk to suckle the Infant.*

Artic.

Artic. 3. *Of the Generative parts.*

I Shall speak but little of these, and with a mind that is modest, and with such a mind they ought to be read. Histories relate, that *Sylla* had but one testicle; and *Philip Landgrave of Hassia* had 3. *Thuan. l. 41.* He addes, he was so full of juice for venery, that when he used onely his Wife, and she could not suffer him so often, as he would; he being otherwise a chaste man, by consent of his wife, and relating his mind to the Priests, he was forced to take a Concubine besides. A Prince of *Germany* who was emasculated by a Cannon bullet, made that member of silver, and with that he got many children, *Nancel. Analog. Microcosm. l. 7.* A Bull that presently leapt on a Cow, so soon as he was gelt, got her with Calf, *Aristotle.* And *Albertus* relates of an Eunuch that used copulation. One was born without a genital member, yet with the Scrotum and testicles; another, without the parts of either Sex, *Schenkius in observat.* It is certain, that Virgins have a virginall Cloyster. But there is not a little skin placed athwart in the middle of the matrix, that makes the neck thereof impassible: but four Caruncles, placed round, with small fibres comming between them, till they are broken by force, and they are circularly shrivelled by course, leaving a hole in the middle of them, that the terms may run forth from the matrix, *Ludovic. de Gardin. Anatom. c. 99. Avicenna l. 3. sen. 21.* makes mention of a part found in the privity of a woman, which he calls the wand, or *Albathara. Albucasis l. 2. c. 7.* calls it *Tentigo*; and sometimes this hath grown so big, that women that have it, could copulate with others like men, *Fallopius. Cæsarean* births shew, that the womb may be cut sometimes without danger. Physicall Histories testifie, that one had her Matrix cut out for her Lasciviousnesse, yet without danger of her life. *Rhodiginus* saith, he saw a Maid foretell future things by her matrix. *Chrysostome* saith, that one of *Apollo*'s Nuns did the like.

Article 4. *Of the Female Sex.*

WEe all know there are two Sexes: the male the superiour; and the female, inferiour almost in all things. God gave the man the Superiority, and commanded the woman to obey. If we consider her body, she shewes by this, her condition is the lowest; chiefly if we consider her temper and excrements. Hence, because they send forth sad vapours, by reason of their courses, they will make Nutmegs and Corall, look foul and black. But if a male carry the first it will grow fatter, the latter will look more red, *Lemnius l. 2. c. 12. de occult.* They are easily angry, and their choler kindled, soon will boyl over; and for want of heat, they are not so ingenious. It is now the common opinion, that this sex is more lustfull than men are. Yet no man will deny, but that there are degrees in this. For in pale lean

people,

people, the genitall parts are filled with a sharp biting humour, and desire to be moystned. *Lemnius l. 2. de occult. c. 37.* conjectures, that they are more venereous than red fat people. Rue makes men lesse, women more lustfull. *Secundus Philosophus*, when he was perswaded that all women were naught, and having made triall, found it so in his own Mother, not that he lay with her, but found she would give him leave, being asked by *Adrian* what a woman was, answered, *Mans Confusion; an unsatiable beast; a continuall trouble; a battel without end; the shipwrack of an incontinent Man; the slave of mankind.* Yet be what it will be; This sex is not so much to be despised: but there are some found above this condition. In the Siege at *Brunswick* a woman playd the Souldier; another did the like formerly in *Cæsar's* Camp, *Camer. Hor. subcis. c. 76. Cent. 3. Eudoxia* the Wife of *Theodosius* the younger writ Poems; and there is extant of her making *Homers* fragments concerning our Saviour. *Proba Falconia* did the like out of *Virgils* Verses. *Jane Grey*, understood Hebrew, Greek, and Latine. *Olympia Fulvia Morata*, could make verses Greek or Latine; and when she turned to the Orthodox Religion, she gave her self wholly to Divinity. What shall I say of *Elizabeth* Queen of *England?* she by her vertues put all the world into admiration; and she so amazed Pope *Sixtus*, that he said, That *she onely with* Henry *the Fourth of* France *was fit to give counsell concerning the state of the whole Christian world.* Examples testifie, that women in time were changed into men. At *Antioch* a famous Maid being married after she had born a child, became a man; at *Mævan*, another also became a man. At *Rome* one, the same day she was married, was transformed, *Volat. l. 24. Comm. Urbin.* The same happened to *Æmilia*, after she had been married 12 years. See more examples in *Schenkius*.

Artic. 5. *Of the noise of the womb.*

SOme have observed, that Children have cryed in their mothers wombs, and so lowd, that they could be well heard. In *Weinrichius of Monsters*, you shall find Examples. A Poet writes thus:

Wonder it is, a Child did sadly cry,
Which was unborn, and in the womb did ly.
The cause was this, it grieu'd, and with its might
Strove to come forth, to see the Worlds great light.
Or else perhaps, it shew'd the earnest care
To help its Parents that now weary were.

Some think, that this portends some hurt to the child, or to the mother: others think, that this is contrary to reason and experience. To Experience, because there is no certainty that any such thing happened amongst the old Philosophers. To Reason, because there can be no cry heard without drawing the ayr by the mouth, and without the

the beating of the ayr by the sharp artery when we breathe it forth, and without a certain forming of it by the mouth, and the Palate. For being there is no place for a reciprocall course of the ayr, in the veins and arteries, and the Infants urinary passage, that are filled with other things; nor for so great abundance, that a passage should be made by the heart; it cannot enter by the navel, by reason of the notable danger of heat, nor can it be admitted by the matrix: to say nothing, that all are full of an excrementitious glutinous matter. *Libavius* supposeth all things required for breathing in the Thorax to be made, and he thinks that the internal aereal breath made of the humours by the active heat, and shut up within the house where the child is, and also contain'd in the capacity of the Lungs, being pressed forth by the Child, may serve the turn. See *disc. de vagitu*, &c.

Artic. 6. *Of numerous Births.*

IN the single faculty of generation, that man hath, there happens variety, if we consider time and number. Some are born in the fift month, some in the sixt, some in the 7th, 8th, or 9th, and some in the tenth, 13th. 15th. *Paschal. in Biblio. medica* saith, one was great with Child 23 months, another 2 years, *Aventinus. l. 5. Annal*, This Child was born speaking; One was with Child four yeares, *Mercurialus.* Yet Physitians set the 9th and tenth months for the time of natural birth, when the Child is grown great and wants plenty of nourishment, and the place where he lyes is grown too narrow. Those that are born in the fift month, are very feeble, as a maid was that *Valescus de Philos. sacra c. 18.* mentions, who was more slender and thin than women-kind use to be. Those that are born in the 7th month are weak, and suspected, not to be perfect in all things; few live in the 8th month, the striving to be born in the 7th month, hath made them weak as some think. For number some will bring two, three, four, oft times; and some will exceed this, that it is miraculous. An Ægyptian, in *Gellius l. 10. c. 2.* had five at a birth. The Mother of *Lamisius* King of *Lombardy* had 7, *Sigebert in Chronic. The Countesse of Quenfurt* had 9. *Betraff. l. 4. of the Princess of Anhalt.* A woman that *Albertus* speaks of, miscarried of 22, another of 70, another of a 150. The matter was proved by cutting the little coats they were wrapped in, *Cælinus l. 4. c. 25.* The Wife of *Irmentrud Isenbert*, Earl of *Altorf*, was delivered of 12. *Margaret* the Wife of the Earl of *Virabostai* of 36, *Cromer. l. 11. Margaret* the daughter of *Florentius* Earle of *Holland* had 365, *Ludovicus vives in colloquiis. Maude* Countesse of *Henneberg* under *Frederick* the second had 1500. *Aventin. l. 7. annal, Cuspinianus* saith, 350. But if you take them at severall times, you shall find wonderfull examples of fruitfullnesse. *Priamus* by *Hecuba* had 19, Children, and 31, by other Women. *Artaxerxes* had 106, *Herotimus*, 600. *Conradus* Duke of *Moscovia* had 80. The King of *Giloto* (it is an Island amongst the *Moluccas*) had 600, *Pigafetta* of Ziamb, 325. another had

 650,

650. *Martinus Polus l. 3. c. 6.* saith, he saw these living. *Ludovicus Vives* saw a Country man in *Spaine*, whose Children whil'st he lived, had filled a Village of above a hundred housholds. And in our times an old Wife spake of her ofspring, thus. Ah my daughter, tell thy daughters daughter to lament for her daughters daughter. *Sphinx. c. 17.*

Thomas Fazell writeth, that *Iane Pancica*, who in his time was maried to *Bernard Belluard*, Sicilian, of the citie of Agrigent, was so fruitfull, that in thirtie child-beds she was delivered of seventie and three children: which should not seeme (saith he) incredible, seeing *Aristotle* affirmes, that one woman at four births brought forth twentie Children; at every one, five. *Albertus Magnus* writes, That a woman of Germanie had two and twentie abortive Children at one time, all having their perfect shapes: and another woman, seventie. And besides, that another woman delivered into a bason a hundred and fiftie, every one of the length of ones little finger. *Erasmus*, *Vives*, and others, have written of the strange deliverance of the Countesse of *Henneberg*. *Lewis Guicciardin* in his description of the Low-Countries setteth down the same storie, taken out of the ninth book of the Annals of *Flanders*, composed by *Guido Dominicus Petrus*: His words are these; A certaine poore woman, brought a bed of two Children, prayed the Countesse to give her some assistance in her necessitie: but the Countesse did not only send her away empty-handed, but charged her that she was of an ill behaviour, saying that it was a thing against nature (in her opinion) for a woman that is honest to conceive by her husband two Children at one birth; and therefore that this her deliverance had bewraied, that she had lewdly abandoned her selfe to some others. The poore woman moved with this reproach and ignominious repulse, and of the other side well assured of her honest carriage, made earnest request to God, that for the proofe of her innocency, and of the faith which He knew she had kept inviolably to her husband, it would please him to grant that this Countesse might have so many Children at one burden, as there were daies in the yeare: which within a while after came to passe. And he addeth, that these Children were as big as Chickens new hatcht, all alive, and sound, and died within a little while together with their mother: to whom this Epitaph following was erected in the Monasterie of Lodun, where there were Nunnes of the order of S. *Bernard*, and it is hard by the Hague in *Holland*.

THE EPITAPH.

The daughter of the right noble Lord Florent *Earle of* Holland, *and of* Mawd *his Wife the daughter of* Henric *Duke of* Brabant, *sister of* William King *of* Almaine, *named* Margaret, *of the age of fortie two yeares, was brought a bed upon the Friday before Easter, in the yeare* 1276, *at nine a Clock in the morning, of three hundred, three-score, and five Children, as well male as female; who after they had been all baptized in a great bason by the reverend Bishop* Don William, *Suffragan, in the presence of some great Lords and notable persons, the male Children being called by the name of* John

John, *the female by the name of* Elizabeth, *dyed all of them together with their mother; their souls returning to God, to live eternally, their bodies resting under this Tombe.*

The like storie well neere is reported of the beginning of the noble race of the *Wolfes*. *Irmentrudes* the Wife of *Isenbard* Earle of *Altorf*, having given her selfe the reines so far, as to accuse of adulterie a woman that had three Children at one birth, being not able to believe that one man could at one time get so many Children, adding withall, that she deserved to be sowed in a sack and thrown into the water, yea, and accusing her in that regard to her husband: It happened that the next yeare the Countesse felt her self with Child, and the Earle being from home, she was brought a bed of twelve male Children, but all very little. She fearing the reproach of adulterie (whereof yet she was not guilty) and the punishment of like-for-like, commanded that eleven of them should be taken and cast into a River that was not far from the house, and that one should be saved to be brought up. It so fell out that *Isenbard* met the woman that was carrying the little infants to their death, and asking her, whither she went with her paile? he had this answer, that she was going to drown a few baggage whelps in the River of Scherc. The Earle came unto her, and (for all the resistance the woman made) would see what was there, and then discovering the Children, pressed her in such wise, that she told him all the matter. Then he caused them to be nourished and educated secretly, and so soon as they were grown great and brought home to him, he set them in an open hall besides him whom his wife had brought up: and then being all known to be brethren by their faces, and their other fashions, their mother moved in conscience confessed all the fact, and obtained pardon for her fault. In remembrance whereof the honorable race of the *Wolfes* got that name, which ever since it hath kept.

Article 7. *Of monstrous Births.*

NAture in working intends her own businesse; but because divers obstacles may happen in respect of the first agent, the seed, the constitution of the Heavens, the formative vertue, imagination, heat, it is no wonder if she erre sometimes. And though there be Monsters almost in all mixt bodies, yet those Monsters that happen amongst living creatures are chiefly remarkable. And such fall out either in quantity or quality. A woman of *Troas*, Anno 1569, brought forth twins joyn'd by the heads, *Pareus l. 24. oper. c. 2. Valeriola locor. commun. l. 1. c. 8.* saw at *Avignon* one with two bodies all from the neck. *Munsterus* saw two Maids joyn'd together, with their foreheads one against the other; and when one went forward, the other went backwards. At *Florence* there were two boyes, one was an entire body, the other was fastned by his shoulders to the others stomach, that all his head seemed to be thrust into it; and when the former sucked, he moved as if he sucked also, *Benivent. de reb. abdit. Pareus l. 24. c. 2.* Anno 1530, saw the same at *Paris*, in a man of 40 years.

years. About the end of the Empire of *Lotharius*, a certain woman bore a child like a man and a dogg; their bodies joyn'd entirely, and they were fastned at the ridge of their backs, *Lycost. lib. prodigior.* In *Scotland* there was one that was a male for the nether parts, but above the navell it had two members, distinct both for use and in shape. This Monster was taught the Musicall Art, and learn'd many Languages. It held consultation, and when they differ'd, they would chide and quarrel; it lived 28 years. And when one body dyed many dayes before the other, the other that lived pined away, half the body being putrified before, *Buchan. in histor. Scotica.* Lastly, in former times there was a child born at *Cracovia* from noble Parents, that was terrible to behold, with flaming shining eyes; the mouth and nostrils were like to an Oxes, it had long horns, and a back hairy like a dogs, and faces of Apes in the breast, where the teats should stand; it had Cats eyes under the navell fastned to the *hypogastrium*, and they looked hideously, and frightfully, and the heads of dogs of both elbowes; and at the whirlbones of each knee, looking forwards; It was splay-footed, and splay-handed; the feet were like Swans feet, and it had a tail turn'd upwards that was crooked backwards, about half an ell long: It was born and lived four hours, and then spake thus; *watch, the Lord your God comes*; and then it dyed, *Peucer. in Tetratosc.*

To this may be added, the stony birth at *Agendicum* of the *Senones*, that was carried 28 years, and was cut out of the mothers womb, when she was dead. It is seen to this day at *Agendicum*, for a miracle, and is not corrupted, *Thuan. l.76. Histor.* He that would hear more, let him read *Bauhinus de hermaphrodite*, *Weinrichius de monstris*, and others.

Article 8. *Of the recompence Nature makes to Monsters.*

IT is commonly said, that those that are deficient naturally, are marked for some malignant qualities: and this is sometimes found to be true; but it is most false, that it is alwayes so. For to say nothing of the diversity of parts, which *Lemnius* adviseth us to take notice of: such is the force of education, that it made *Socrates* good, that would have been bad. Moreover, Nature is so indulgent, that, as if she were ashamed of her mistake, she largely recompenceth her errour with other endowments. Count *Mansfeld* that fail'd in sight, could by touching, know white from black, *Keckerm. in Physicis.* *Hamar*, a Captain of a Caravan, would know where he was by onely smelling the same, *Leo African.* A Preacher in *Germany* that was blind from his nativity, chose the fairest of three Sisters, by taking her by the hand, *Camer. Hor. subcis. Cent.* 3. *c.* 80. *Cicero* saith, *Homer* was blind; we see not him, but his Poetry. His words are, *Tusculan.* 5. *what Country, what place, what Town of* Greece, *what form, what sight, what Army, what rowing, what motion of men or beasts, is not so represented by him, that what he saw not, he described it so, that we might see it?* *Didymus Alexan-*

drinus was also blind from his childhood, who professed wisdome divine and humane, which he learned, *Ruffin. l.* 11. *c.*7. *Eccles. histor.* What shall I say of *Thomas Schweikerus*? *Posthius* a Poet, and a famous Physitian writes thus of him,

> Thomas *by nature wanting arms, with's feet*
> *Performs all things, you'd wonder for to see't*;
> *With's feet he eats and drinks, full well*; *and then,*
> *With's feet he turns his books, or makes a Pen*
> *With's feet to write, and paint doth understand,*
> *No man can do it better with his hand.*
> Cæsar Æmilian, *as stories mention,*
> *Admir'd, maintain'd him, with a Pension.*

Georgius Pictorius Villinganus l. 4. *Sermon Convival.* testifies, that he saw a *Spaniard* born without arms, so cunning with his feet, that he could spin, or use the neidle curiously, as the cunningst woman could with both her hands. He could so wield his arms, that no Souldier could match him; and shoot in a bowe, that he would never misse the mark; and with one stroke he would break a thick log. To conclude, *Keckerman* speaks of a Schollar, *l.* 1. *Physic.* c.4. that had but one little finger on each hand, and his feet were triangular without any toes, and he had more force in one finger, than others had with five; he writ curiously and swiftly, and stood so firm, that in slippery places he would seldom slip. Also *Pliny* may cease to complain of nature, that is a bountifull mother to all; and recompenseth a defect with more benefit.

Camerarius and some others being once at Combourg, in the house of *Erasmus Neusteter*, a wise and vertuous gentleman of Germanie, he entertained us with the greatest kindnesse that could be devised, and sent to a place not very farre from them for one *Thomas Schweiker*, a young man of one and thirtie yeares of age, descended of a worshipfull house, and borne without ever an arme, who did with his feet all that a readie man could do with his hands, so that himself affirmed he was recompenced with one gift in stead of another. Having set himself in a place equall with the heighth of the table whereon the meat was placed, he took a knife with his feet, begins to cut bread, and to cut meat, which he carried with his feet to his mouth, and likewise the cup, as easily as another would have done with his hands. After dinner, he begins to write examples in Latin and German letters, so straight and so faire, as every one of us desired to have some of them to keep as a speciall monument. Being requested, he did with a penknife make penns, very good to write with, which he gave us. While he was thus a doing, I marked diligently the making of his feet, and saw that his toes were long, fit to take hold of things; and to behold them a farr off, one would take them for fingers; for his thighs and legs, he kept them mannerly covered with his Cloake. This sight (which we had never seen before) was no lesse pleasing than

than strange to us; as it was also at another time to the Emperor *Maximilian* the second, who passing that way, desired to see the man; and having noted in him (not without wonderment) the strange recompence of Nature, he dismissed him with a rich gift. Of late there hath been seen a man without armes going about in Germanie, who had learned by custome turned into art, to handle a sword, and to flourish it about his neck; to sling halberds, and to do other strange things so nimbly, and so surely withall, that he would most commonly hit the marke; and all other duties of the hands, he did them with his feet. But the end of his life shewed that he was a deceiver and a wicked person: for he was broken upon the wheele for his robberies and murders.

We have at Nuremberg a young Man and a young Maid, borne of one Father and Mother, of a good House, and well known, that are endued with a singular quick conceit: for although they be deafe and dumb by nature, yet can both of them read very well, write, cypher, and cast account. The young man conceiveth at first by signes that are made him, what he is required to do. If his pen be wanting, by his countenance he sheweth his thoughts, being the quickest and cunningest at all games both at Cards and Dice, that one can find among the Germans; although there they use great advisement, and be marveilous readie and quick. His sister passeth all other maids for working with her needle all kinds of Seamstrie, Tapistrie, Embroiderie, &c. But among all the other wonderfull recompences of nature, this is remarkable in them, that most commonly as soon as they see ones lips stirr, they understand his meaning. They are oftentimes at Sermons, and a man would say that they draw and conceive with their eyes the words of the Preacher, as others use to do with their eares: for, they will oftentimes (no body ever teaching them, or setting them any Letters or Copies) write the Lords Prayer and other godly prayers, know by heart the texts of the Gospels that are read upon holy-days, and write them readily. When in the Sermons the Preacher maketh mention of the name of *Jesus*, the young man is readie before any of the hearers, to take off his hat, and to bow his knee with all reverence; So carefull is nature, like a good mother, to make amends for a fault, that none should accuse her to be a step-mother: for, what she taketh away in some of the senses, she alloweth in the rest, as appeareth by *Didymus Alexandrinus*, of whom *Rufinus* writeth, that he being blind, after he had humbly recommended himself to God, spent all his time in hearing, insomuch as by his diligent attention he attained to that which others obtaine by reading; and by the direction of the holy Spirit, became so skillfull in divine and humane learning, that he was excellent among the Divines of his time. Moreover, our Ancestors have seen *Iohn Ferdinand*, a Flemming, a blind and poor soul, a Spaniards son, who overcame so happily these two difficulties (very crosse to all, especially to learned men) that he became not only a very learned Poet and Philosopher, but also so excellent a Musician, that he played upon divers

vers kinds of Instruments, to the great pleasure of the hearers; and besides, he made good songs and full of musick, of many parts. Another, named *Nicasius* of *werd*, borne at *Macklin*, excelled him: for falling blind when he was three yeares old, and not being able before learne any one letter, he so profited in the knowledg of Philosophy, both humane and divine, that all men were ravished with him. Having proceeded Master of Arts at *Lovain*, and afterwards being made Principall of *Macklin* Colledg, where he discharged his duties passing well; he ascended a while after to the degree of *Licenciat* in *Theologie*, and though he were blind, he read, and preached openly. Furthermore, being made Doctor of the Laws in the University of Colen, he read there, and expounded the Civil and Canon Law, repeating by heart the texts which he had never read, and at last died at *Colen* in the yeare 1492.

We will conclude this Chapter with an example of one borne blind, in whom nature made supplie of that defect with a marvelous recompence otherways. The story is mentioned by *Antonius de Palermo*, thus: I learnt (saith he) of King *Alphonsus*, that there was a Sicilian borne blind, living still at that time in the Citie *Gergento*, called in old time *Agrigentum*, who had followed him oftentimes a hunting, shewing to the Hunts-men (who had their sights well ynough) the retraits and repairing places of the wild beasts. He added further touching the industry of this blind man, that having by his sparing and scraping, gotten together about five hundred Crowns, which put him to a great deale of care, he resolved (at last) to hide them in a field. As he was making a hole in the ground to that end, a gossip of his being his neighbour, espied him, who so soon as the blind man was gon, searched in the earth, found the money, and carried it cleane away. Two or three dayes after, the blind man returning thither to visit his cash, and finding nought there; like one altogether forlorne, he frets and torments himselfe, and after much debating and discoursing concludes, that no man but his gossip could have played him such a trick. Whereupon finding him out, he thus began to say unto him; Gossip, I am come to you to have your opinion: I have a thousaud Crowns, and the one half of them I have hid in a safe place; and for the other halfe I know not what to do with them, having not my sight, and being very unfit to keep any such thing, therefore what think you? might I not hide this other halfe with the rest, in the same place of safetie? The gossip approved and commended his resolution, and going speedily to the place, carried back againe the five hundred Crowns that he had taken away before, hoping that he should have all the whole thousand together. A while after the blind man goes to his hole, and finding there his Crowns againe, took them up, and comming home, calleth for his gossip, saying unto him with a cheerfull voice; Gossip, the blind man hath seen better than he that hath two eyes.

Article 9. *Of Nations of divers forms.*

WHat I said in the 8th Article of Monstrous Births, happens but seldom; yet some thought, that happened commonly amongst some Nations. Not far from the *Troglodites* in *Æthiopia*, there is a people that have no heads, and their eyes are in their breasts. *Augustine* saw them, *Serm. ad Fratr. in Eremo. Solinus* confirms it, *c.* 53. *Pliny l.*5. *c.*8. In *Peru* in the Province of Caraqui, *Hispalensis* sayes, they want the forepart, and hinder part of the head, *Sylvius* p.5. c.35. For he adds, *That so soon as they are born, they make their heads level with boards. Rawleigh* in his Navigations to *Guiana*, speaks of some that are call'd *Epumerocaci*. The *Circades*, a people beyond *Taprobana*, are long visaged, with horse heads, if we credit *Arrianus, Ramus tom.* 1. In the Mountains of the *Indies* they have Dogs heads, and claws, and hides like beasts; they cannot speak, but bark, saith *Megastenes*; *Ælian l.* 10. *c.* 26. saith, they are in Egypt, in the way to *Ethiopia*, and he describes them, that they are black visaged, having no voyce, they make a thrill noise, and their chin is so far beneath their beards, that it is like to a Serpent. They live by hunting Oxen and Does. *Augustin de civitate Dei, l.* 16. *c.* 6. thinks, that is not incredible. Amongst the *Scythians* there are some with such large ears, that they will cover all their bodies, *Isidor. l.*11. *c.*3. Some have their feet so broad, that they can shadow their whole bodies with them, when they lie down, from the heat. I may here adde, that there are Sea-Men. Anno 1403, a Sea-Woman was taken in the Lake of *Holland*, and brought to *Harlem*, she was ready to learn some things that women do, but she could not speak. Anno 1526, in *Frisland* a Sea-Man was taken with a beard and hairy, he lived some years, but could never speak, *Libav. l.*6. *de universitat. rerum.* And not long since, when the *Denmark* Ambassadors sail'd into *Norway*, they saw a man in the Sea, that had a swathband of corn, they took him and put him into the Ship, and he dyed, they cast him into the Sea again, and he revived. Historians approved do write these things. We will not here add what we think, onely the Devill hath many wiles; and great is the force of Imagination; and sometimes beasts are taken for men, if they be but like them. We read in the *Scotch* History, that the Kings Embassadours were brought by a storm into *Norway*, and saw hairy beasts in the Mountains wandring like to men, they thought they had been men, the Inhabitants told them they were wild beasts. Let every man think what he please. I may have occasion to speak more of this elsewhere.

Article 10. *Of a wonderfull Antipathy betweeen the Father and the Sonne.*

THere was a Father that hated his child as much as some men do Cats; for if he were present, though he saw him not, he would swoond. *Georgius Mylius*, a Divine of *Jena*, related it. *Libavius* sought the cause diligently. And if the reason of antipathy in naturall things be worth enquiry, that is most worthy to be searched out, that is between children and parents. This is certain, that the cause of this discord cannot be found, nor in the rational nor the sensual part. For he wished his son no harm, nor can sympathy or antipathy be called love or hatred in parents. For they are to be found in things that are not living; and if they be in living creatures, they are not in them as they are living, but as they are natural things. Yet because he did not abhor his other son, nor hate his off-spring, for which cause he married, it is certain that was no hereditary infirmity. It is probable, the son was changed into a disposition the father could not away with; and that might proceed from the seminary body ill disposed from the womb, or by the confluence of impure blood, that had in it some ground for this alteration, or from the blood the Embryo was nourished with. For this growes divers from the matter of the nourishment, or may degenerate from some other inward cause, or from the place: sometimes the spirits that assist the blood and the whole nature, cause a change. Therefore either the mother had a great longing for some meat the father hated; or else she was frighted at something the father could not endure: To say nothing of the Midwife, or of hidden causes. So a Maid at *Uratislavian*, drank Cats blood, and became of a Cats qualities; and *Faustina* tasting the Fencers blood, had a son that was most cruell. If any think that a habit cannot be got by one act, he must know that is false of naturall powers; for they that of old were once taken into *Trophonius* his den, were wayward ever after; and a woman that fell into a Wolfs hole, grew hoary the same night.

Artic. 11. *Of some wonders concerning* Generation.

I Adde these, though I have said much, that nothing might seem to be wanting. *Soranus Ephesinus Isag.* 17. writes, that women that are delivered in ships, have still children; not that they cannot speak, but they will not cry when they are born. *Ausonius* speaks of one thus:

Thy Father Genoees, *thy Mother* Græcian *blood,*
Born in a Ship at Sea, can that Son ere be good?
Ligurians *vain,* Greeks *liars, false Sea, these three*
Thou dost resemble well, they all do meet in thee.

Some are born with marks upon them: *Johannes Fredericus*, Elector of *Saxony* had a golden crosse on his back, a sign of his future calamity, *Buchol. in Chronol. James*, King of Great Britany, had a Lion, a Sword, and a Crown when he was born, *Camer. hor. subcis. Cent.* 3. *c.*42. The Kings of the *Corzani* have the sign of a black Eagle on their shoulders, *Marcus Venetus*. It is a report, that the Princes of *Austria*, (others do not write so) are born with a golden crosse, that is, that they have white hairs drawn out in the form of a crosse, *Fœlix Faber histor. Suev. l.*1. *c.*15. Some men procreate after 80 years. For *Masanissa* begot 6. Children after that age; and a Noble-man of *Francony* had a son and a daughter, after that time, *Camerar.* Women have born children after 50 years. And some have born children being children themselves. *Albertus Magn. l.*4. *sentent.* writes, that one was with child at 9 years old, and was delivered at ten. And *Pliny l.* 7. *c.* 2. saith, that some have born children at 7. years old, and that but once, and they lived not above 40 years, and they were held to be very old. *Rhodig. Antiqu. l.* 14. *c.* 18. saith, that a boy of ten years old got a child. Some have been delivered in the second, third, or fourth month after their first child, of another living child. *Nancelius l.* 8. *Analog.* writes of one that was brought to bed twice in two months. Others could not be delivered but by a Chirurgions opening their wombs. *Schenkius* reports, that one woman was cut open four times for four severall children. *Pliny* writes, that *Proculus Cæsar* got 100 Maids with child in 15 dayes, *Pliny l.* 7. *c.*32. In *Picenum* a child was born with 6 teeth, *Bonsin. Decad.*3. *l.*8. In *Prusia* the son of the King of *Bythinia*, had but one solid bone in place of teeth, *Solin. c.* 3. Some are born, that can sometimes move their ears. *Zoroaster* was born laughing. So much for this; we shall proceed to other matters.

CHAP. VI.

Of Vitall action.

Article 1. *Of the Heart.*

SOme have wanted a Heart, if we credit *Avicenna*, and if his writings be not corrupted, *Rhodig. l.*4. *c.*16. When *Cæsar* was Dictator, the same day he went in his purple garment, the Priest found it twice wanting in the bowels, *Plin. l.*11. *c.*37. Some have been found with two hearts, as the Partridges in *Paphlagonia*; some have wanted the left ventricle; and the midriff in some hath been like a gristle, *Columb. l.*15. *Anatom.* And *Gemma* found a bone in it in two mens bodies, *l.* 2. *Cyclog.* And *Wier. l.*4. *de præstig. Dæmon. c.* 16. found stones as big as pease. *Aristomanes Messenius*, who killed 300 *Lacedemonians*, and was sometimes taken, and sometimes escaped, had a hairy heart, *Valer. Max. l.* 1. *c.* 8. The same thing *Beniventus* reports of a certain

certain thief, *c.*33. *de abditis*. The *pericardium* or purse wherein the heart lies, may be wanting. *Columbus l.* 15. *Anatom.* observed a young man that wanted it, and he was troubled with swounding fits. A wound may be in the heart that is not mortall; for the Son of *Marylus* the writer of obscene matters, had the *pericardium* cut, that one might see his heart, yet he did not die, *Galen. l.* 7. *administr. Anatom.* A history of *Groning* tells the same almost that happened upon a wound in the Heart; because but few know it, I shall set it down.

A wonderfull Accident of a wound in the Heart.

Nicol. Malerius wisheth happinesse to the Reader.

IT hath been thought hitherto that a man could not live a moment almost, if his Heart were wounded. Reason and Experience prove it. For since our life depends upon the safety of the spirits, the shop and making whereof is in the Heart; when the heart is wounded, it is necessary that the generation of the spirits cease. Yet I thought good to set down here a very notable History; a history of a Souldier that lived 15 *dayes after he was wounded in the heart; none of the old or new Physitians mention any such thing.* Andreas Hasevanger, *who was of the Lifeguard of the most illustrious Count* William *of* Nassaw, *Governour of* Frisia, Groning, *and* Omland, *&c. received a wound in his brest by his fellow-Souldier,* Anno 1607, *on the* 22 *of* August *about the Evening, he died* September *the* 8th, *at one of the clock after Sun-rising, which was the* 16 *day after he received the wound. The body of the dead Souldier, by command of the Generall of the Army was opened to search for the wound, by me and two Chirurgions,* Caspar *and* Lucas Hultenus; *a noble valiant man,* Bernard Hoornkens *looking on, and some other Souldiers that were of note. When we had opened the cavity of his breast, and a great deal of very stinking matter was run forth; we found, and wondred, that the wound had entred the right cavity of his heart, and all that part of his heart was almost all consumed; the left part being entire, wherein is contain'd the chief shop of the vitall spirits; By the benefit of this,* Andreas *lived to the sixteenth day: and lest some should not believe this, the most noble and worthy men signed it with their names subscribed, to confirm it, &c.*

Artic.

Article 2. *Of the* Pulse.

THe Pulse is the motion of the heart and arteries, consisting of a systole and diastole. *Platerus* thinks it is felt on the left side, by reason of the great Artery. Yet *Cardan* saith, some have perceived it onely on the right side. There is great inequality in it, from divers accidents that happen, whence comes the diversity of pulses amongst Physitians. No man can deny, but that sometimes it may be intercepted; and not felt when the Arteries lye deep, *Balduinus Ronseus.* The Player of *Andreas* Count of *Gorca*, had naturally all kind of inequalities of pulse. But *Johannes Brosovius* of the Order of the Crosse of the blessed Virgin had it with intermission all the time he lived. Physitians try the motion of the heart in living creatures. *Coiterus* observed it in a Cat. Then cutting the *Pericardium*, he observed a double and contrary motion in the heart, namely unto the ears of it. For whilest the heart beat, the ears sank down; when the heart sank, the ears were lifted up and fill'd; which in the ears were composed for a diastole: they seemed to be inflated like a bladder; and when they were extended, they were red, and continued so a while, before they came to a systole. The same reason was observed in the space of the diastole. Yet in the systole they grew white, and became loose, and sank down, and by the force of the heart, they were drawn a little toward the basis of the heart, &c. In *obs. Anatom.*

Artic. 3. *Of Life and Death.*

I Have little to say of Life, but that men were long lived before the Flood: after that time none lived to *Adam* or *Methusalems* Age. Yet some have lived very long, *Lemnius l.4. c.24. Occult.* writes, that he saw a Pilote at *Stockholm* a 100 years old, who married a Wife of 30, years, and had some Children by her. *Laurentius Hethlandius* in *Buchanan* was 140 years old, and yet in the coldest Winter went a fishing. An *Indian* of the Nation of the *Gandaridæ*, they call it now a days, *Bengala*, lived 335 years, his Son was 90 years old, and though he knew no letters, yet he could by memory report as true as the Chronicles. His teeth shed and grew again, and his hoary beard grew black again. *Petrus Masseius.* That is also rare, that *Thuan. l.* 134 writes. That *Emanuel Demetrius*, bred obscurely, lived 103, yeares, his Wife was 99, and was married to him 75 years, the one supervived the other but three hours, and Anno 1603 they were both buried at *Delph.* The years of Mans age that rise by 7 and 9, are decretory or climacterical, hence Children are endangered about 4, 7, 9, years, *&c. Celf. l. 2. c. 1.* The 63 year is most dangerous for old men. Whence that proceeds it is hard to conjecture. *Lemnius l. 2. c. 32.* He thinks that at certain periods of yeares, a great abundance of humours are heaped up, by the agitation whereof diseases arise. For when nature comes to immoderate repletion, and the recep-

receptacles cannot receive the plenty of humours, it must come to a disease. *Philo in loc. allegor. l. 1.* writes thus of the 7th year. *Nature delights in the 7th number; there are 7 Planets, the Bear hath 7 Stars; the Moon hath some change every week, and those changes in the ayre proceed from thence. All humane things, that have a divine principle, are moved healthfully in the 7th number; Children born in the 7th month are safe; in the 7th yeare a man is perfectly a reasonable creature; at 14 he is able to get his like, at 21 he leavs growing: the part of the brutish soul is divided into 7, into the five senses, the instrument of voyce, and the generative force. The motion of the body is 7 fold, six according to the parts, the 7th round about. There are 7 inward Bowels, the Stomach, Heart, Milt, Liver, Lungs, the two Kidneys. There are 7 Members of the Body, the Head, Neck, Brest, Hands, Belly, the Groins, the Feet. The principall part of man hath seven holes, two Eyes, two Ears, Nostrills and Mouth. There are 7 excrements, Tears, Snot, Seed, and what comes forth by the two sinks of the body; and Sweat in every part, &c.* What ever it be, live long or little, death is certain to all. *Nature at the same moment gave a law of being born, and to dye, Valer. Max. l. 5. c. 10. Mourning weeds are put upon conquerours dores, Senec. ad Polyb.* But the way is unknown, and divers. *Baldus* was bit by a Cat at *Meletum*, but lightly, on the lip; he grew mad four months after, fell into *Hydrophobia*, and died. *Magol. in Colloqu.* *Ladislaus* King of *Naples*, when he dwelt at *Perusium*, died of the Pox. *Colenut. in compend. histor. Neapolitan.* Some have died with too much joy, some with grief. When the Janisary was sent to kill the youngest Son of *Bajazet* by *Solymans* command, and he saw the Child laugh at the halter, and to kisse him, and to sport; this cruel man was so moved, that he fell down dead. *Thuan l. 24.* After death, almost all Carkases corrupt, and are changed into other bodies. *Pliny* saith, *l. 10. c. 66*, that Serpents breed of the Marrow; and so they did of the body of *Cleomenes* who was hanged, *Plutarch.* The same was done in a young Man *Camer. cent. 1 horar. subcis. c. 11.* For when he was thought to be the fairest of his time, and fell deadly sick, he could not be perswaded to leave his picture to posterity; only he granted thus much to their request, that many days after he was dead and buried, they should open the Monument, and as they then found his body; so should they picture him. When they opened it, his face was found halfe eaten up with Worms, and they saw many Serpents about his *Diaphragma*, and Marrow of his back. The Sepulcher of *Carolus Martellus*, was found without his body, and a Serpent in the place, *Guaguin et Æmil.* In *Ægypt* whole Carkases are found, out of which *Mumie* is taken, that is a cure for many diseases; Nor do those bodies corrupt that are seen neere *Kijovia* by *Borystenes.*

Artic.

Artic. 4. *Of Venemous infection.*

BEcause Venoms are most pernicious by a hidden quality, I shall add a few things concerning the variety of Infections. First I shall speak of the Ayre infected. That is seen in the Plague, and might be proved by all in that Cave neere to *Naples*. And the matter is come so far, that the Ayre may be infected by art, that the enemy coming into it may be killed. That was clear in the Sepulcher of *Semiramis*, that was placed above the famous gates of the City. For when *Darius*, hoping to find treasure, opened this, he found a little Coffer, which being opened, such a Venemous blast flew out, that it killed a third part of the men. Some living Creatures kill by sight, and hissing. That was thought true of the Basilisk, that was seen in the treasure of *Maximilian* the Emperour. And *Avicenna* writes *l. 4. fen. tract. 3. c. 22.* that a Souldier wounded a Serpent with his Lance, and by his Lance he and his Horse were poysoned, and died. *Bartholin. Phys. special. part. 3. c. ult.* saith, that in *Cimbria* a Shepheard that leand his arme on a Barn dore, had his sense and motion taken suddenly away on that side he leand, and his beard grew grey on that side, and there was a brood of Serpents, found under the dore. *Jambolus* saith, in *Arabia* there is an hearb, and if any man sleep upon it, they die in a sweet sleep. *Diodor. Sicul. l. 2.* I add tasting to sight. So in *India* when those of *Europe* tasted the beautifull Plants, they died suddenly. *Alexanders* Army was almost ruin'd by a new kind of Apple. A Country man in the Valley of *Ana*, was bit unawares by the head of a Serpent cut off, he put his mouth to the wound and sucked it, to help it; but he grew suddenly speechlesse and died, *Mathiol.* What shall we say for touching? The *Turks* have Poysons that will kill in one day by touching. *Cardan. l. 1. de venen. c. 15.* *Otho* the 3, Emperour of *Rome* was killed by a pair of venom'd gloves sent him from the Wife of *Crescentius* a Roman Consul, who was frustrated of his marriage. *Johan Galeacius* was killed by Venome put into his stirrop when he rid. *Dryinus*, if any man tread upon it, it will excoriat his feet, and the hand of the Chirurgion that dresseth the sore will be excoriated by it. Lastly many dye by venom'd smells. For *Alexander Magnus* his horse-forces in *India*, died all almost of the smell of a Pestilent shrub: and *Franciscus Ordelaphus*, a Captain of *Forolivium*, had a kind of Poyson, that, cast upon coles, would kill all came neere it. Think not that to be done by the naked quality: some Venemous thing was joyn'd with the smell; for certain it is, that there are many effluxions of things.

CHAP.

CHAP. VII.

Of the internall and externall Sense.

Article 1. *Of Imaginations of melancholy people.*

THose that are sick of melancholy have such strange phantasms presented to them that sometimes the wisest men are deceived by them. One man thought he was all Soul; another that he was a Millet seed. One, that he had so great a nose, that no gates were great enough to let him in, *Lemnius l. 2. de complex. c. 6.* Some thought they had no head; some thought their buttocks were made of glasse, *Lemnius.* One of *Sena* of noble birth, thought that if he should make water, he should drown the World, *Laurent. l. de melancol. c. 7.* A woman, saith *Trallianus*, tied the middle finger of her hand, as if she carried the whole world upon it; she cryed, saying, she feared that should she bend it, the whole World would fall down. A learned man in *Quercetan. Diætet. Polyhist. l. 1. c. ult.* thought, that two evill spirits were put into him by his friend that brought them out of *Italy*, and that they oft-times talked with him. A *Burgundian* at *Paris* in the Temple of St. *Julian*, said, he was dead, and desired the Physitians to trouble his soul no longer; that was flying out of Purgatory into Heaven. Then he imitated men dying, *Scholiogr. ad. c. 17. l. 1. Holler. de morb. intern.* A certain man in *Montan. consil. 75.* thought the world was made of fine glasse, and that Serpents lay under it, and that he was in his bed as in an Island; and should he come forth, he should break the glasse and fall down amongst the Serpents. I say nothing of a Maid, who supposed she was in Heaven, and that she walked with the sacred Trinity, and Angels, and the Devill perswaded her to think so. Sometimes such people use to speak strange tongues, and foretell future events. So *Erasmus in Encom. Medicinæ*, writes, that one of *Spoletum*, when he was sick, spake a strange Language; when he recovered, he forgat it. *Guainerius tract. 15. c. 4.* reports, that he saw a Country man that was sick of melancholy, who alwayes when the Moon was combust, would write Latine verses; and after a new Moon, about two dayes, till the next new Moon, he could not speak one word in Latine. *Forestus* writes of a melancholy woman that would sing Latine songs that she had never learned. And *Johan. Huartus in scrutin. Ingenior.* makes mention of a Spanish servant, who imagined himself to be a King, and made learned speeches concerning Government when he was sick. But we must needs confesse, that the Devill is the Author of these things, by a just Judgment of God. Nor can this be ascribed to the Stars, as *Guainerius* thinks; nor to the agreement of the Latine tongue with the rationall Soul, as *Huartus* would have it; nor to the pure overshadowing of the spirits, or to a malignant quality, as others suppose. Whether

some

some modern examples appertain to this matter, I leave it to wise men to judge, and will say no more of it.

Article 2. *Of the force of Imagination.*

THe force of Imagination may be known by the former Article; but because melancholique Imaginations are with sicknesse, they do not so well expresse it, as fear and conception do. For when a noble Youth who had ravished a Maid, was to dye for it, he considered so deeply of it, that his vital heat and spirits were so extinguished, that all his beauty became despicable, and the roots of his hair grew dry, for want of moysture, and turn'd grey, *Camer. memorab. medic. Cent.* 2. *Mem.* 15. The same happened to *Franciscus Gonzaga*, when he was imprisoned for a Traytor, *Scalig. Exer.* 312. And to *Lodowick Bavarus* the Emperour, when he had slain *Helica* a Virgin of *Prenneberg*, cut off his Wifes head, and had cast another Noble woman headlong from a Tower, he fell sick of it by a vision in the night, *Avent. l.* 7. Innumerable Examples prove, that in conception the same may happen. The Wife of Duke *Plumbinus* having layn with a Black-moor, was delivered of a Blackmore. *Persina* an Æthiopian, seeing the Image of a white child when she lay with a man, had a child with a white face, *Heliodor.* When *Charles* the fourth was Emperour, the Wife of *John Baptista*, looking often on a picture, bare a hairy child. A man disguised lying with the Wife of *Boldack*, as if he had been the Devill, got her with child, and the boy ran about so soon as he was born. You shall find the like Monster in *Lemnius in occult.* And he extends Imagination so far, that he thinks, that in more venereous Virgins, their seed being mingled with their blood by imagination of venereous things, may cause the rudiments of a living creature. How that may be, it is hard to explain, nor doth it belong to this place.

Artic. 3. *Of Sight and Smelling.*

Augustus Cæsar had such clear eyes, that whom he looked on intentively, he would make them to wink, as at the Sun beams. *Suetonius* saith, that *Tiberius* could see in the dark like a Cat. It is certain, that *Strabo* had such acute eyes, that from *Lilybæum* he could discern Ships going forth of the *Carthagenian* Haven, *Val. l.* 1. *c.* 8. and he could number all the Ships. The distance was 135 miles. If this be true, that is true also, That a *Spaniard*, one *Lopes*, was in *Gades*, who from a high Mountain call'd *Calpen*, would see over the Sea against it, and discern out of *Europe*, the banks of *Africa*, (the passage, as *Cleonardus in Epistol. ad Jacob. Labocum* saith, is in a calm Sea, 3 or 4 hours over,) yet he could see what was done there, *Camer. hor. subcis. l.* 3. *c.* 81. In the West of *Africa* there are Blackmores with four eyes, *Lycosten.* Also *Isigonus* and *Nymphodorus* report, that *Some Families in* Africa *have eyes that bewitch people: If they praise*

praise any things, they perish by it, trees will wither, Children will die; and *Isigonus* saith, there are such people in *Illirium*, and the *Triballi*, that will bewitch any thing with looking on it, and kill those they look upon long, especially with angry eyes, and young men especially are bewitched by them. That is most notable that they have two Apples in each eye. In *Albania* there are some that have Owls eyes, and are hoary from their childhood, who see better by night than day, *Pliny l.* 7. *c.* 2. *Anastasius* the Emperour had Apples of his eyes of divers colours, the right eye was blacker, the left more grey, *Zonar.* They that dwell near Lakes cannot endure smells. *Strabo l.* 16. reports, that such amongst the *Sabæans* as are stupified by sweet smells, are refreshed by the fume of bitumen, and by the beard of a Goat burnt. That stinking smells are good sometimes, women that are cured by them of their hysterical passions, and the plague, thereby removed, do confirm. At *Antwerp* a Country man coming into a Perfumers shop, swounded, but came to himself by rubbing his nose with horse dung, *Lemn. l.* 2. *occult. c.* 9.

Article 4. *Of the Face.*

GOd hath set Majesty in some mens Faces, chiefly if you regard Princes: some are of a wonderful form for comelinesse; others for ill-favoudnesse. They of *Bruges* were afraid of the Countenance of *Cæsar Maximilian*, being captive; *Delf l.* 3. *in Maximil. vita et Philippi.* The Conquerours that beheld the Countenance of *Francis* the first King of *France*, who was worthy of everlasting renown, when he was taken at *Ticinum*, they all strove to do him service, seeing his Kingly Countenance, *Forcatul. de Gallor. Imper. l.* 3. When the Conspirators thought to have slain *Alphonsus Estensis* the First, Duke of *Ferrara*, he frighted them with his looks that they durst not do it. The twins *Mœnechmi* in *Plautus* were so like, that neither their Nurse nor Mother could know them asunder. *Vives* observes the same of two sons, *John* and *Peter*, of a Senatour of *Mechlin.* *Antonius Bithynicus* was so fair, that *Adrian* the Emperour built a Temple to him, in *Mantinea*, and a City by *Nilus*, and engraved his Image on the Coin. The son of *Maximinus* was so beautifull, that his head that was grown black after he was dead, and soked with corrupt matter, yet seemed very fair. *Democles* an *Athenian* boy was call'd so for his comelinesse, and he had so much care of his chastity, that to decline the force of *Demetrius*, he cast himself into a Kettle of scalding water, *Plutar. in Demetrio.* *Spurina* a young Maid, by her very looks enticed men and women to lust, *Valer. Max.* Lastly, Queen *Suavilda* was so delicate of form, that when she was bound with thongs, and exposed to be trod on by horses, she was a terrour to the very beasts, that they durst not tread on her fair limbs, *Saxo Gram. l.* 3. *histor. Danic.*

Artic. 5. *Of Dreams.*

AS in other things, so Nature sports her self in dreams: for sad people are merry when they dream somtimes, merry people are sad; Servants are Kings, and Lords become Servants. And though we must confesse that many of them, and what is then done be natural, yet scarse any can deny, but many of them are supernatural. God in elder times did teach his Church by dreams, and now adayes many dreams come to passe. When *Lucas Iselius* the Son in Law of *Zwingerus* was at *Vesontio*, he foresaw in his dream the death of *Huber*, a Physitian of *Basil.* For he seemed to see his bed covered with fresh earth cast upon it, which when removing the blanket, he thought to cast off, he saw *Huber* the Physitian under the bed; and in the twinkling of an eye he was changed into the forme of a Child. *Nessenus* the same day he was drownd in the *Albis*, dreamt of some hurt came to the boat, and his own falling out of it. *Christopher Rhaumbavius* a Physitian of *Uratislavium*, followed the counsel he had given him in a dream, concerning the cure of a disease, was to him incurable; and he recovered his patient. The wonder was, that a few yeares after he met with that receipt in a Book newly printed. *Doring. de medic. l. 1. part. 2. s. 1. d. 1. c. 3.* Histories report that the same hapned to *Philip*, and to *Galen* before him. To this may be added the dream of the Mother of *Scanderbeg*, concerning a Serpent, that covered all *Epirus*, and stretched forth his head into the *Turks* borders; devouring them with bloody jaws, but the tayle was contain'd amongst the Christians, and the government of the Venetians. *Barlet. l. 1. de gest. Scanderbegi, c. 32.* That of *Scaligers*, of a great flame with a mighty noise passing over the Alps, at *Noricum*, *Rhætia*, and *Liguria* without any hurt. *Scalig. in com. l. de insomn. Hippocrat. Apotel. 42.* Of *Hunnius* his, of a Pillar in the Church; These did foreshew the future condition of their Sons, and that certainly. For *Scanderbeg* was a hammer to the *Turks*, *Scaliger* the bright Star of those quarters. And *Hunnius* a Pillar of the Church he lived in. What shall I say of *Gunthram* King of the *Francks*? It is wonderfull what he dreamt: *For when on a time he went through a wood a hunting, by chance losing his company, and having but one man left with him, who was more faithfull to him than the rest, he came to a brook of cold water. And when he was heavy with sleep he laid his head in that Mans bosome and fell a sleep. This servant there observed a strange thing; For he saw as it were a little Creature creep out of his mouth whilst he slept, and go strait to the River; and when he strove in vain to passe over, the Servant laid his drawn sword over the brook, whereby, when the little beast had easily passed over, he crept into a hole in a Mountain hard by, and coming back an hour after he passed the same way, and crept again into the Kings mouth. The King wak'd and told his Servant, that in a dream he seemed to be brought to the bank of a great River, and to have passed over an iron bridge, and so to come to a Mountain where there was great store of gold hid. When the King had related this*

this to his Servant, and heard again from him what strange thing hapned when he slept, they both went to that Mountain, and there they found a mighty masse of Gold conceald. *Heidfeld, in Sphinge, c. 14.* *Marinus Mersennus in Genesin*, calls this a diabolical dream. That is more wonderfull, that he dreamt at *Schmalcaldium*. He that will have the relation, let him read *Pencerus de Divinatione*. And, in place of that, I will set down the dream of *David Pareus*, which is thus described by him. *I saw a great Oxe that was weary, which extended his head to the East; and behold a Ram came from the East with three horns; and he ran upon this Oxe, and hurt his hinder legs, and the Oxe fastned himself, and stood strongen. And I saw that the weary Oxe set his feet firmer. And there came another Ram from the Mountain of the Gentils, and those ways, and breaking one leg between his horns, he ran upon his fore parts; yet the Oxe stood fast again and fell not, but the Rams grieved exceedingly, and those that adored the Rams wept; because God preserved him, and sent him food from* India *that strengthned him. And behold on the otherside of the River stood an* Armenian *Tyger, with the Moon upon his Head, and he said, I will prey on both the conquerer, and the conquered; and the Ram with three horns was devoured by the Tyger, and conquered him. The other Ram fled to his Mountain; and the grasse withered, but the Oxes horns grew, and the Tyger fled from him; and the Ram did not escape into the Mountain, and I was glad that God preserved the Oxe.*

Artic. 6. *Of Walkers in the Night.*

THere are many examples of Night-walkers. A certain young man rising out of his bed, putting on his Cloths, and his Boots and Spurs, got astride above the window, upon a Wall; and spurd the Wall as if it had been a horse. Another went down into a Well and came not up again till he had touched the water. *Horstius* tells of a Noble Man that went to the top of a Tower, and robb'd a birds nest, and came down again by a rope.

It is reported, that one at *Paris*, girt with his sword, swam over the *Seyn*, and killed one he was minded to kill before; when he had done this villany, he return'd home, *Aleman. comm. ad libr. Hippocrat. de Aere*, &c. As for the cause, many men are of divers minds. The best opinion ascribes it to Imagination: for the sensitive soul in sleep, not onely rouzed by an external object, converts her self to be sensible, and first perceives darkly, afterwards more clearly; but being affected by the inward object represented in a dream, rouzeth the moving faculty. The Imagination is rouzed by the species of things reserved; about which whilest it acts intentively, it stirs up the moving faculty. That this is so, appears by daily experience. For who knowes not but we are troubled in our sleep? That we rise not, is because our phantasie is not altogether so busie about the Images reserved, as in some other men. Yet the stronger motion doth not alwaies proceed from the same cause. For some think the same thing may be caused

caused from diurnal cogitation, especially in younger people, that are more bold, and more lustfull. Others suffer this from an internal affection of their body, yet they are not all of the same kind. Some have more cheerful, and more phantastick animal spirits; some seem to do this out of simplicity. That they wake not, is caused by the stiffnesse of the vapours. For these not suffering them to be easily awaked; and on the other side, the animal spirits being lively, it falls out that they are half awake, half asleep: yet it is not likely, that all are of the same kind. For that boy *Libavius* speaks of, that went naked to the door, and came home again, observed a Watchman sitting in the streets. Lastly, the cause they do those things in their sleep, they cannot do waking, is their ignorance of the danger; the action of reason is darkned, and they cannot hinder the motions raised by Phantasie, *Libav. in Noctambulis.*

Article 7. *Of some things observable concerning the Head and the Senses.*

THere was one born and grew to be a man, *Anno* 1516, that put forth another head at the navel, *Lycosthen.* *Anno* 1487, there was a boy at *Venice* that had his mouth cut divers wayes, and a genitall member growing to his crown. Some of years have had horns grow on their heads. A Virgin had them about the joynts of her Feet and Arms, like to Calves horns, she was cured afterward, *Schenk. l.* 1. *observ.* The Egyptians had such hard heads, that you could hardly break them with throwing a stone at them. The *Persians* heads were so weak, that a little stone would break them, *Herodot.* The *Indians* heads in *Hispaniola* are so hard, that they will break swords. *Cardan. l.* 12. *de variet. rer. Beniventus* saith, *de abdit. c.*10. that a Monk had his forehead bone eaten naked by a sharp humour. *Tyrrhenus Torcon* and *Cycnus Trojanus*, were grey when they were young, *Cal. l.* 3. *c.* 27. *Antiq.* And *Ctesias* writes, that in a part of the *Indies*, the women never breed but once, and presently grow grey after the first child. The *Miconii* are born without hair, *Plin. l.*14. *c.*37. It is rare for a woman to grow bald; no Eunuchs ever do, nor any man before he hath known a woman, *Pliny.* There was a woman seen at *Paris* with a black upper beard that began to be hoary, of a great magnitude, her chin also was moderately hairy. Also they report, that in the company of women, that *Albertus* the Duke of *Bavaria* kept, one of them had a long beard, *Wolsius.* There was a child born in *Lombardy* in the time of Pope *Gregory*, that had ears big enough to cover the whole body, *Thomaius in horto mundi c.*19. Many men could move their ears, and the skin of their heads at pleasure, *Dalechamp.* Men say, that in the inward parts of the East, there are people without any nose, and their face is flat; others that want their upper lip; others without tongues, *Plin. l.*6. *c.*30. They write also, that there is a part of Æthiopia, where the Inhabitants are born with a flexible body, that they can

can wind themselves easily every way they please; and they have two tongues, and can use them both, and speak plainly with them at pleasure, *Gem. Fris. l.* 1. *c.*7. *Cosmocrit.* *Mutianus* saith, he saw *Manes*, a *Samothracian* Citizen, who had his teeth grew again after 104 years, *Plin. l.*11. *c.* 17. *Aristotle l.* 2. *c.* 4. *de pastor. animal.* makes mention of a woman that had her check teeth come forth with pain, in her 80 year. *Pliny* writes, that some had teeth bred in their palates, *Pliny l.*11. *c.*37. *Mæcenas* never slept in three whole years, at last he was cured by gentle Musick, *Seneca de provident.* *Nizolius*, call'd *Ciceronianus*, never slept in ten years, *Heurn. c.*16. *de morb. capi.* *Cardan*, when he pleased, could be so taken up in his thoughts, that he would feel no pain in that state. And *Augustine l.* 14. *de Civ. Dei c.* 24. reports the same of a Presbyter restored: He lay as though he were dead, and did not feel those that pulled him; nor would he stirre, though they burn'd him with fire: yet he confessed, that he could then hear men speak, if they spake aloud, as though they were far off from him; And it was confirmed by this Argument, that he did not do it by resisting, but by not feeling, that he moved not his body; for he lay as dead, and drew no breath. The English History relates, that *Elizabeth Burton* a Maid of *Canterbury* had contracted the same custom of taking away her senses, from a disease she had.

CHAP. VIII.

Of the faculty of moving from place to place.

Artic. 1. *Of the wonderfull strength and agility of some people.*

I Shall speak Wonders; and that there were such Examples, *Polydamas* may prove; who being unarmed slew a Lion. The same man set upon a herd of Oxen, he caught hold of the hinder foot of one of the greatest Oxen, and would not let it go, though the Ox raged, till he left his hoof in his hand. He held Chariots with four horses back, with his hand, when they went with all their force, *Rhodig. l.*7. *c.*37. When *Milo Crotoniensis* held an Apple, no man could wrest it from him. He at the *Olympian* Games, carried an Ox a furlong, and held his breath all the while; then killed him with a box of his fist, and easily eat him up all the same day. At last, when he thought to pull asunder a cleft Oke, it fell upon him and kill'd him, *Pliny l.*7. *c.* 20. *Maximinus* the Emperour had such strong limbs, that he put on his Wifes bracelets, that was a circle set with Jewels, that went about her Arms, for a ring on his thumb. A Cobler in *Sweden* carried alwayes 120 pounds of gold hang'd about his neck; and he fought with 9 Fencers, and killed them all, *Olaus l.*5. *c.* 2. One *Paulus* in *Bonfinius rer. Ungar. decad.* 4. *l.*2. was in stature and for limbs like *Hercules*: He took an armed man in his teeth at a military dance; and though he was in armour himself, yet he carried him with him, and danced.

danced. *Ubertus de cruce, of Milldin*, carried a beast laden with Wheat, and standing but upon one foot, no man could thrust him off from the place he stood, *Leander in Mediol.*

Lastly in the Mountain *Anchusa*, not farr from *Atlas*, every single foot-man can resist two horse-men in fight. *Leo African. Philetas Coïs* was so light, that he tied leaden bullets to his feet, that the wind should not carry him away. There are as wonderfull examples of *agility of body*. In a Western Province of the New World, the *Indians* are so swift, that they will run a whole day to overtake a Man. *Hispal. Sylv. p. 5. c. 7.* The *Scritofinni* will out run Wild Beasts, *Krdnt. in Suecia.* The same Author writes that *Herald* a Noble Irish man would out run any horse. *l. 5. Norveg. c. 6.* In *Mexica*, Posts in four days will run 70 leagues. *Polymnestor Milesius*, when he was a boy catcht a hare in sport. *Philonides* in one day ran 1200 furlongs on foot, that is 75 French leagues. *Ladas, so ran over the white sand, that he left no prints of his feet.* In *Italy* there was a Boy born when *Fonteius* and *Vipsanius* were Consuls, who at eight yeares old ran 45 miles from Noon to Night. *Solin.* But wonderfull is the agility of a Country man bred amongst Cattle, who came to the Court of the Prince of *Papeberg. Camer. cent. 1. hor. subcis. c. 75.* The Prince had in his Court a Dwarf call'd *Martinettus*, that got on the back of that nimble man, as upon a horse, and he turnd round with him, and ran here and there as he listed, but when he pleased, he would at one leap cast his rider, though he sat never so fast. Then he with the Dwarfe on his back would fight with the Hounds, and great Mastives the English call them Dogs: some of them were very fierce, and yet with his barking like a dogg, and grinning, and with his hair about his ears, he did fright them, and drive them out of the Chamber, and somtimes he would bite the lesser dogs, when he had driven forth all the doggs he leapt wonderfully up and down, with four feet, and jumped to the highest corners of the room, that an ape could hardly do as much, and yet he with his Country square body did it with ease. I saw him, once and twice, when I dined with the Prince, when he had cast off the Dwarfe from his back, and barked away the doggs, he leaped over the shoulders of one that sat at table, then over the Table, not touching the cups nor platters that stood upon it, and then into higher places, and that so nimbly, that he seemed to flye like a Squirrel, or *Indian* Cat whereof *Julius Scaliger* writes. He adds, many were of opinion, that he cast a mist before mens eyes, but he knew nothing of that, nor do I think he could do that if he would. *Justinus l. 44.* writes that *Habides* Son to *Gargor*, King of the *Curetes* was of the like agility.

CHAP.

CHAP. IX.

Of the rational Soul; and first, of Memory.

THe rational Soul is the Form of Man, and gives man his Being, distinguishing him from other creatures. The faculties of it are two, Understanding and Will, the speaking faculty is given to them both, to interpret. There is scarce any thing to be said of them. For though there are infinite almost considerations of them, if you consider the diversity of inventions, virtues, consultations, tongues, manners of writings, and the rest, yet, should we adde them here, it would be a great fault in method, for they are more fitly handled in the Ethicks, and therefore I forbeare them here.

I shall onely adde one thing of Memory: That some have had an excellent Memory; *Esdras* the Priest had all the Jews doctrine by heart. *Cyrus* and *Scipio* knew every Souldiers name in their Armies; *Carmides* would say any books that any one asked for in their Libraries, as if he read in them, *Plin. Mithridates* had learned the Languages of 22 Nations, *Gellius. Julius Cæsar* would dictate to four at the same time; *Pliny* saith, he was wont to dictate, to read, and to hear. *Themistocles* had such a Memory, that when *Simonides* offered to teach him the Art of Memory, he said, He *had rather learn the Art to forget*; saying, *He remembred what he would not, but could not forget what he would*, Cic. l. 2. de finib. *Seneca* repeated in order 2000 names as they were first spoken. He rehearsed 200 verses, and began at the last. *Portius Latro* never read over again what he was to deliver: For he learned it as he writ it, and he repeated it, and never missed one word. As these had excellent Memories, so others had as bad, either from some disease, or ill constitution by birth. *Messala Corvinus* forgat his own name. *Franciscus Barbarus*, a most learned Man at *Athens* in the Greek Tongue, having a blow on his head with a stone, remembred firmly all things else, onely he forgate Learning, that he had spent so much time upon, *Valer. Max. l. 1. c. 8. Clusius Sabinus* had such a barren Memory, that sometimes he forgat the name of *Ulysses*, sometimes of *Achilles*, sometimes of *Priamus*, Seneca in Epistol. *Atticus* the son of *Herod* the Sophister, could never learn the names of the letters. The *Thracians* could never count above four. But the greatest Wonder is that *Thuan. l. 134* writes of *Theodore Beza*, that before he dyed, when his mind was grown feeble, he forgat things present, but what was printed in his Memory afore time, when he had his understanding, that he held; and it continued for two years so, when he languished. As for wit, that depends on a certain temperament. And it is wonder, that oft-times those are stupid in many things, that are held wise in other things. *Themistocles* could not so well take as catch counsels. There was one could not learn the Rules of Logick, yet other Arts he could quickly learn, *Huartus*. For the excellency of it; *Janus Drusus*, the famous Student, had a son so singular,

gular, that from 15 years old to 20, when he dyed, he writ excellent Commentaries on the *Proverbs* and other Books. *Drus. in præfat. Paralip. in n.* 7. Yet the Wit of Man cannot reach many things. The force of the Loadstone; flowing of the Sea; the wonderful effects of humours in Man's body; the constitution of his naturall heat; and many more. They have busied many, but no man hath rightly found them out. The vulgar opinion is, God cannot be comprehended by reason of his Excellency; nor *materia prima* for its worthlessnesse. Hidden Properties are too loose an *Asylum* for our Ignorance. I will here stop; for so I intend. My purpose was to set down things most pleasant, to make young Men delight in Naturall History, and to help those that teach Noblemens children privately. I have inserted many things doubtfull, and I have alledged their causes from other mens opinions, to shew, that Nature requires searching. Nature is fruitfull, and I could not set down all. Her bounds are so large, that it is beyond my strength to search over all. If what I have writ be accepted, and I shall have so much ability and opportunity, I shall write an *Enchiridion* of Naturall History, wherein Nature shall be set forth at large, and in short also. I shall leave the scrutiny to others; *whether*, and *wherefore*, things are. But the Supream over all will provide for these things. To whom be praise and glory to all Ages. *Amen.*

FINIS.

and [illegible]

Some to great proficiment do attain and in